

AMERICAN ARTISAN and Hardware Record

Vol. 83. No. 9.

620 SOUTH MICHIGAN AVENUE, CHICAGO, MARCH 4, 1922.

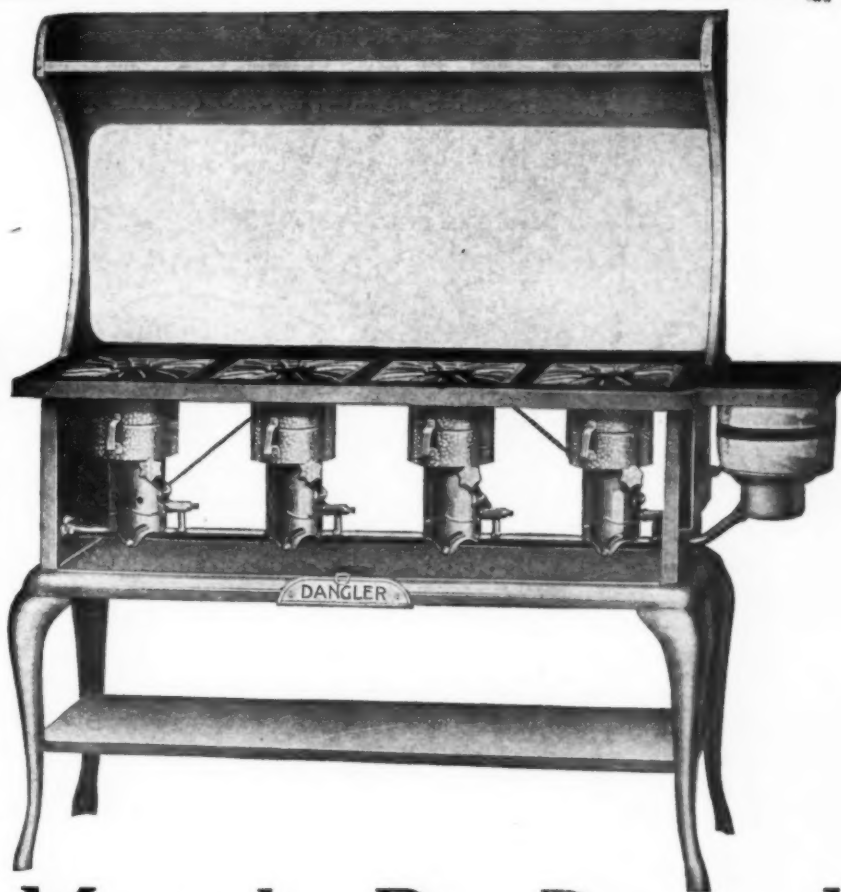
\$2.00 Per Year.

Buy

DANGLER

Wick Oil Stoves

Now



Be Ready to Meet the Big Demand

for these high grade Dangler Wick Oil Stoves. Look over the complete Dangler line *now*—there's a style and size for every requirement.

Place your orders early—stocks are low everywhere and you want to have your Dangler Oil Stoves on hand when the big demand comes.

Our Prices Are Low Now

Don't wait—Dangler dealers are buying now—they are preparing for big business and our attractive prices will show you they are right.

Write for catalog showing complete line.

DANGLER STOVE COMPANY

Div.—American Stove Co.

CLEVELAND, OHIO

The Weir Furnace



"It does save coal"

MANY of our new dealers have spoken of the Weir as a business stimulator.

Perhaps your well of business needs priming too.

If these new Weir dealers are finding Weir sales not only profitable and satisfactory but easier to make isn't it likely you'd be interested in knowing why?

We think so.

We have the evidence to send.

Write for it.

Eastern Distributors:

DEMMLER BROTHERS COMPANY
Pittsburgh, Pa.

Southwestern Distributors:

THE MEYER FURNACE & SUPPLY COMPANY
Kansas City, Mo.

Northwestern Distributors:

STANDARD FURNACE & SUPPLY COMPANY
Omaha, Neb. Sioux City, Ia.

The MEYER FURNACE COMPANY
PEORIA, ILLINOIS

Founded 1880 by Daniel Stern

Thoroughly Covers
the Hardware, Stove,
Sheet Metal, and
Warm Air Heating and
Ventilating Interests

AMERICAN ARTISAN and Hardware Record

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YOU MUST SPEND MONEY TO MAKE MORE MONEY.

If a man has an overdose of morphine, about the worst thing you can do for him is to let him alone. Your best chance of saving his life is by keeping him awake.

Often such extreme measures are resorted to as the sticking of needles under the finger nails; making him drink strong hot coffee; slapping his face and punching his ribs.

In quite an appreciable number of instances, the victim resents the pushing of the needles under the finger nails and the slapping of the face.

There are some merchants who are suffering today from an overdose of the morphine of conservatism.

They are in a sort of stupor as to the opportunities for bettering their business.

The person who takes upon himself the more or less thankless task of arousing them needs to use hard-hitting words.

Incidentally, he will incur their resentment in the beginning of the arousing process.

It is much nicer and pleasanter to say to retailers: "You are the salt of the earth. Without you civilization would perish. You are as a class the kindest, cleverest and most lovable people in the country."

Of course, there is a lot of truth in all that.

We will suppose it said in full measure and with all reasonable eloquence.

Then let us proceed to the case of the other fellow—not you, of course—who is under the influence of the narcotic that we were talking about. The main and unmistakable symptom of its influence is a reluctance to spend

money, a paring down of expenses and expenditures into the very tissues of the business.

Advertising is stopped. In order to save a few pennies of postage, the mailing list is neglected. Other so-called, purile economies are enforced. The result verges almost on financial coma.

A merchant who is thus stupefied through fear or misunderstanding of the present situation, needs to be waked up.

The way to get more business is to spend money to get it.

You have to spend money to make more money.

When business is slack, dig into your bank account, and buy more advertising space.

Then put the right kind of words—honest, sincere, friendly, persuasive words—into that space, telling the people about the goods with which you are ready to serve their needs and comforts.

Spend money on your mailing list.

Send out more circulars. Get up more special sales and advertise them. Invest more money in seasonable goods and then push them into the sales column.

This is preeminently the time for spending instead of hoarding.

If you want to make money, now is the time for you to spend it in order to make it.

Spending money wisely may be compared to planting seed in fertile soil.

Cultivate your sales ground and you will be rewarded with an ample harvest of profit.

Random Notes and Sketches.

By Sidney Arnold

MY FRIEND, E. C. Haas, of Le Mars, Iowa, field secretary, Iowa Retail Hardware Association, tells about two colored gentlemen who were disputing about the relative merits of their automobiles.

"Say, brother," the first darkey asserted, "Ah got a car, boy, with a big horn on it, and when Ah pass through the town all Ah gotta do is blow that siren an' everybody hops outta the way.

"Ah gotta a car, too," declared the second darkey.

"What kinda horn is yo' car got?" asked the first gentleman of color.

"Mah car ain't got no horn," was the answer. "All the people in town is gotta look at is mah radiator, and it says 'Dodge Brothers!'"

* * *

Phil Hensch has come back to his old love. For a good many years, Phil was a steady visitor to the cutlery departments and sold lots of safety razors. Then he got the notion that there was more money in selling bakery machinery, but he has seen the error of his ways and has taken on two cracker-jack lines of cutlery—carvers and kitchen knives from Lamson & Goodnow Manufacturing Company; Shelburne Falls, Massachusetts, and pocket knives from Schrade Knife Company, Walden, New York.

His many friends among the cutlery buyers are showing their friendship for him by letting him book good sized orders. Glad to have you back among us again, Phil, as a real hardwareman.

* * *

One of the things to which I look forward is the occasional coming of a postal card from the Rudy Furnace Company, Dowagiac, Michigan, bearing one of the cheering and tonic "Rudygrams." Here is the latest "Rudygram":

"Rudy says: 'Did you ever notice when a mule is kicking he isn't pulling?'"

* * *

A good Scotch story, having no connection with the Volstead Act, is told by Harry W. Neal of Hall-Neal Furnace Company, Indianapolis, Indiana, as follows:

Some year ago there was started a movement to have the kilts of a certain British "highland" regiment discarded in favor of trousers. The colonel gave orders that a census of the regiment be taken in order to ascertain the wishes of the men themselves. The colonel is a descendant of a long line of Scotch lairds and strives earnestly to uphold the old traditions.

The sergeant who took the census of the regiment finally appeared with his report.

"All the men, with the exception of three, are in favor of the change, sir," he said.

"Indeed," the colonel said. "Give me the names of these three true clansmen. They shall be promoted."

"They are, sir," was the reply, "Patrick Doolan, Owen Evans and Moses Isaac."

* * *

You can not be sure that the right moral is drawn from every lesson and put into practice, says Wilbert G. Wise of the Wise Furnace Company, Akron, Ohio. He cites an example, as follows:

When little Willie's mother opened the door to the minister her face beamed with joy and welcome in spite of the fact that it was washing day.

"This is a real pleasure, sir," she began. "I've been wanting to thank you for the good you've done our Willie by your evening classes. Home's as different again since he attended the plumbing and gas fitting class!"

"This is indeed gratifying—very!" said the minister. "Now, what improvement have you noticed in little Willie of late?"

"Well, he's arranged our penny in the slot gas meter so that we get our gas for nothing. You see, he's moved it from the scullery to outside the front door, sir."

"But you still have to put your pennies in the slot, my good woman!"

"Ah, but you see, sir, before he put the meter in the road our Willie wrote 'Chocolate' over the slot!"

* * *

We were discussing the vagaries of slang and Wesley Johnson, sales manager of the Standard Foundry & Manufacturing Company, De Kalb, Illinois, quoted this example:

I know a case where a knowledge of it would have saved a man's life. The man was a German spy. Disguised as a major of the Australian forces, he penetrated the Australian lines.

His English was perfect, but not so his Australian slang. Australian slang, by the way, is the weirdest in the world. "Fair dinkum" in that lingo means "a real Australian."

Well, the German spy fraternized with the Australian officers, and all seemed to be going well, when a blond giant gave him a searching look and said:

"Say, look here, are you fair dinkum?"

The German spy nodded and smiled.

"Yes," he said, "I am Maj. Fair Dinkum."

Then he was taken out and shot.

* * *

Make the Most of Today.

I've shut the door on yesterday—
Its sorrows and mistakes;
I've locked within its gloomy walls
Past failures and heartaches.
And now I throw the key away
To seek another room,
And furnish it with hope and smiles
And every Springtime bloom.

No thought shall enter this abode
That has a hint of pain,
And Envy, Malice and Distrust
Shall never entrance gain.
I've shut the door on yesterday
And thrown the key away—
Tomorrow holds no fears for me,
Since I have found today.

Vivian Yeiser Laramore.

The Latest News About Stoves and Ranges

Items and Discussions of Interest to the Manufacturer and Retailer of Kitchen Ranges, Heating Stoves and Accessories.

Eclipse Stove Company Changes Name.

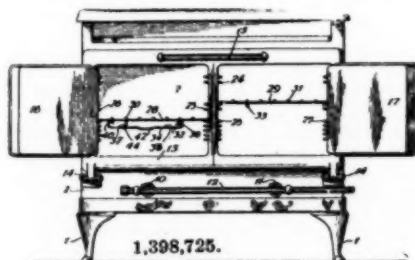
In order to give rightful prominence to the people who have been instrumental in its success during the forty years of its existence, the name of the Eclipse Stove Company, Mansfield, Ohio, has been changed to the Tappen Stove Company.

Members of the Tappen family have been connected with the Eclipse Stove Company ever since its formation.

Convertible Stove Oven Is Patented.

Joseph Kneier, Cleveland, Ohio, assignor to Herman J. Trenkamp, Cleveland, Ohio, has obtained United States patent rights for a convertible stove oven described herewith:

A device of the character described comprising a pair of shelves each provided a given distance from one end with a pair of eyes, and a bracket provided at each end with a pair of hooks adapted for movable engagement with said



eyes respectively said bracket being adapted to underlie said shelves when brought into substantial alignment therewith and adapted when in such position to support such attached ends of the shelves in substantially the same horizontal plane when the other free ends thereof are supported, one pair of said hook and eye connections being detachable whereby said shelves may be

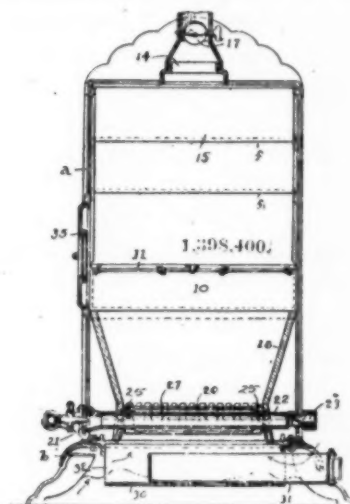
separated, and means for fastening the end of said bracket thus freed to the shelf to which it remains attached.

Obtains Patent for Coal and Gas Range.

Nikolaus Schreder and Stefan Schreder, Cleveland, Ohio, have obtained United States patent rights under number 1,398,400, for a combined coal and gas range described herewith:

A combination stove for gas and solid fuel, comprising a chamber having fixed grate members in its bottom and sides for solid fuel and a middle tubular grate member having perforations to emit gas, and a rotatable gas supply pipe on which

ly mounted and provided with per-said tubular grate member is fixed-



foration to emit gas into said tubular member.

The More You Know About Stoves and Ranges the Better Equipped You Are to Sell Them.

Get a Reliable Line of Stoves and Ranges and Study Every Detail of Their Material, Structure and Operation.

SELLING stoves is a good deal like going to school.

There is quite a difference of positive values of knowledge between the kindergarten class with its alphabetical limitations and the eighth grade with its square roots, commercial geography, physiology, literary analysis, and theme-writing.

Manifestly, a pupil in the kindergarten class is not yet much of a scholar.

He can not be expected to show as much results of teaching as the pupil in the third or fifth grade.

Yet the general designation school children is given to all of the pupils, irrespective of the amount of knowledge which they have acquired or the grade in which they are studying.

A similar condition applies to salesmanship.

Everyone who sells stoves is a

salesman of stoves, but all are not equally advanced in the knowledge of the selling of stoves.

Self-evident and, perhaps, needless as these observations may seem to be, nevertheless, it is well to make them from time to time.

A trip among the hardware stores where stoves are sold will disclose greater variations of knowledge of stoves than is found among pupils of schools.

Some fellows sell stoves in the same way that they would sell tickets at a motion picture house.

Often the ticket salesman at the motion picture house does not know a thing about the picture that is being shown and if he is asked whether it is a good picture or not, he falls back on the conventional saying of "Oh, yes, this is a fine picture"—and lets it go at that.

If the patronage of the house de-

pendent upon his being able to sell the picture in advance to the audience, the chances are that the place would go bankrupt in a week.

Now a good many people who sell stoves are in the same relative position to their customers as the ticket seller is to the patrons of the motion picture theater.

That is to say, a lot of the work has been done in advance by general publicity.

The motion picture is reviewed by the motion picture critic of the daily newspaper; it is heavily advertised in advance of its coming to town; and people who have seen it talk about it.

A stove or range of standardized make and trade-mark is known to quite a number of the customers of the hardware store through national advertising as well as through recommendation of users.

Therefore, the task of the stove salesman—at least, so far as standard lines are concerned—is comparatively easy.

But the problem of every merchant is volume of sales.

What devices can be used to increase the number and frequency of sales?

It is at this stage that the big differences in salesmen show their effect.

The salesman who knows the product, who is acquainted with all its qualities, who can explain the reason for every detail of its structure, who is able accurately to tell the prospective customer how long it takes to bake a given kind or quantity of food in the oven of the stove that he is selling, etc., etc., is the one who is most likely to have the largest number of sales to his credit at the day's end or month's end.

In other words, the more you know about the thing which you are selling, the greater are your chances for a larger volume of sales.

Particularly, in these days of economic transition, when we are just emerging from the torpor of depression, it is of first urgency to stimulate buying.

This can best be done by studying the commodity thoroughly and with interest and applying the knowledge thus gained to the actual transaction of sales.

Many stove salesmen who are ambitious, who realize the indispensable helpfulness of knowledge of their product, actually go to the stove works and watch the process of making the stove from the melting of the pig iron to the polishing of the last piece of nickel plate adornment.

To sell stoves, study them.

Be so well informed that you can answer every question that may arise in the process of a sale.

Use your knowledge of a commodity in connection with your knowledge of general principles of salesmanship and you will have no cause to complain about hard times.

Make Obstacles Stepping-Stones to Success.

In the great cycle of business changes one of the invariable signs that a reverse movement is approaching is that nine-tenths of the people who feel rather than think are sure that no change can take place, says *The Credit Monthly*.

At the top of a boom they see endless prosperity. At the bottom of a depression they can see nothing but ruin and depression for years to come.

This indicator is now with us. With every fundamental condition favorable, with the forces making for better business stronger than the retarding elements, there are many who can see no daylight ahead.

Eighteen months ago they were the professional optimists, today they are the professional pessimists. If we are to be guided by them now we will be just as far wrong as they were when the collapse came.

Now is the time to "challenge our emotions with our intellects, challenge our fears with our judgment." There is no great boom ahead of us. There is steady improvement in sight. There are difficult problems to be solved, but, as the French say,

"If they were not difficult they would not be problems."

There have always been obstacles to overcome. The winner is the man who makes them stepping stones to success.

National Enameling and Stamping Company Elects New Officers.

A change in the management of the National Enameling & Stamping Company, New York City, was effected at the recent annual meeting, when a ticket of six new directors and ten old members of the board won over the management ticket. The new ticket was presented under the leadership of Clement Studebaker.

After the meeting Mr. Studebaker said that the election "means that we are going to advocate a more active policy and develop to a greater degree the steel end of the business."

The election of J. W. Dougherty, ex-president of the Crucible Steel Company, as one of the directors is part of the plan for development in that direction. The company's steel plants are now operating at about 55 per cent of capacity.

The six new directors elected are: Clement Studebaker, J. W. Dougherty, former president of the Crucible Steel Company of America; W. J. Maguire, J. S. Moran, Fred Orthwein, associated with the Busch interests of St. Louis, and W. B. Randolph.

The following were re-elected, having received all the votes of the opposition: L. C. Bartling, G. V. Hagerty, G. W. Knapp, A. W. Niedringhaus, G. W. Niedringhaus, E. H. Schwartzburg, A. J. Keckhefer, L. Niedringhaus, G. H. Niedringhaus, and W. Howard Matthai.

Who Makes Minnemeyer Conductor Fastener?

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Kindly advise us who manufacture the "Minnemeyer" patent brass conductor fastener.

THE NATIONAL CORNICE COMPANY.
—, Ohio, February 23, 1922.

Events and Progress of the Hardware Trade.

What the Retailers, Jobbers and Manufacturers Are Doing.
Latest Selling Methods and Experiences of Successful Men.

Joseph E. Stone Becomes Stanley Sales Chief.

Amply fitted for the position by experience and talent, Joseph E. Stone has been appointed general sales manager of the Stanley Works and the Stanley Rule & Level Plant, New Britain, Connecticut. He enjoys an extensive acquaintance in the hardware trade and his many friends will be glad to learn of his appointment.

Follow Lincoln's Advice If You Want More Business.

Abraham Lincoln said, "If you would win a man to your cause, first convince him that you are his true friend. Therein is a drop of honey that catches his heart, which, say what he will, is the greatest highroad to his reason, and which

once gained, you will find but little trouble in convincing his judgment of the justice of your cause, if indeed that cause be really a just one.

"On the contrary, assume to dictate to his judgment, or to command his action, or to mark him as one to be shunned or despised, and he will retreat within himself, close all the avenues to his head and heart; and though your cause be naked truth itself, transformed to the heaviest lance, harder than steel, and sharper than steel can be made, and though you throw it with more than herculean force and precision, you shall be no more able to pierce him than to penetrate the hard shell of a tortoise with a rye straw.

"Such is man and so must he be understood by those who would lead him even to his own interests."

A Scowl Can Not Change the Quality of a Saw, but It Can Keep a Man from Buying It.

The M. F. Dressler Hardware Company of Minneapolis Issues a Store Paper to Win Good Will with Smiling Friendliness.

Selling goods is not a matter of exchanging money for commodities across the counter.

If that were the case, no special training would be required to achieve success in merchandising.

The fact is that merchandising is a complex process which involves numerous and diversified human relationships.

To acquire prosperity as a retailer, a dealer must establish a sort of kinship with his customers.

People are governed through their emotions more than by reason.

Fear, pleasure, delight, laughter, hatred, jealousy, love and envy are all more powerful than pure logic in their influence upon judgment and action.

Although impressions are never accurate enough to take the place of clear reasoning, yet they have more to do with gaining or repulsing good will than the truth of established facts.

Consequently, the merchant who seeks to widen the circle of his trade and to maintain the patronage of his customers must deliberately employ such devices of persuasion and publicity as will produce favorable emotional reactions in his clientele and prospective customers.

Strictly speaking, a smile has no more to do with the quality and service to be derived from a good saw than a frown has to do with the table of addition in arithmetic.

Whether you scowl or laugh makes no difference in the princi-

ple of mathematics that two things which are equal to a third thing are equal to each other.

Nevertheless, the selling of a saw can be made a failure and a would-be buyer can be repulsed by a show of grouching on the part of the salesman behind the counter.

It is true that the saw remains a saw after such a repulse.

None of the molecules of its steel have undergone the slightest change as a result of the churlish attitude of the man behind the counter.

Evidently, then, merchandising is not merely a matter of exchanging money for commodities.

Equally clear is the fact that emotional reactions are the big factors in the business of retailing goods.

It becomes, therefore, of first importance to study and appeal to human nature in order to be successful as a retailer.

One of the effective ways to encompass this end is to distribute a store paper, of the type exemplified by "Store News," published by the M. F. Dressler Hardware Company, Minneapolis, Minnesota.

The front page of this clever store paper is shown in the accompanying illustration.

Quite appropriately, the first column begins with "Smiles," and there are four rib-tickling jokes.

The column concludes with an announcement breathing the spirit of friendliness, as follows:

"This store paper is issued in the interest of our customers and will be sent out each month. Its aims are:

"To acquaint our friends with the things that are happening locally: To supply interesting news of our merchandise; to furnish helpful information of various sorts.

"Copies of this Store News will be sent free anywhere upon request. If your copy doesn't reach you regularly, please advise us promptly."

The second column is devoted to

an editorial wishing a Happy New Year to the customers of the Dressler Hardware Company, thanking them for their friendship and patronage, and promising service and satisfaction in their future dealings with the firm.

This is followed by three clever paragraphs devoid of unpleasant

whole library of sound philosophy, which reads as follows:

"If you don't find joy along the way, you'll never find it at the end of the journey."

The third column of the front page of the Dressler Hardware Company's "Store News" has three items of local news which help put

Cherry 2162. We will see that you get what you want, and the same careful attention and prompt service that you receive in the store will be given to your each and every order."

Having been put in good humor by reading the first page of the "Store News," the patron or prospective customer reads with interest the announcement of the January sale of white housewares on the second page.

Following the example of the leading national household magazines, this page contains an excellent recipe which suggests in a perfectly natural way the use of some of the white housewares listed and priced on this page.

A store editorial concludes the third column.

"This editorial is so good and rings so true and has so much of the right kind of persuasiveness in it that it is worthy of reproduction here:

"No matter how much we try to avoid mistakes, things are apt to go wrong at times in spite of our carefulness and it's such times that we are guarding against when we tell you to come right back and make a complaint if you are not entirely satisfied—and don't feel a bit backward in doing so.

"The pleasing of every customer is all important with us, and we always endeavor to live up to our guarantee of satisfaction with every purchase. We can do this if you will let us know immediately, should anything go wrong."

The third page is devoted to ice skates, snow shovels, motor accessories and humidifiers, all appropriate for the season and all well illustrated.

Also, there is a good joke on this page to help along the spirit of smiles, and brief editorial at the bottom of the last column.

The fourth and last page of the Dressler Hardware Company's "Store News" has a column of housekeeping helps and an advertisement of a pipeless furnace, as well as a two-column wide advertisement of the Clark Jewel Sani-



Dressler Hardware Co.

814-816 WEST BROADWAY
HARDWARE OF QUALITY

Store News

Vol. 1
Minneapolis, Minn., January, 1922
No. 2



Smiles

"Did you bring home that pane of glass for the kitchen windy, Pat?"
"Oh did not. Oh was after a twelve by fourteen an' the only soise they had was fourteen by twelve."
"Ye fool, why didn't ye get it? Ye 'could have put it in sideways, couldn't ye?"

Judge—"The police say that you and your wife had some words."
Prisoner—"I had some, but didn't get a chance to use them."

"Mama," shouted Johnny from the nursery, "Sunny wants half the bed."
"Well," asked the mother, "isn't he entitled to half of it?"
"Yes," replied Johnny, "but he wants the half in the middle."

Charles—"The doctor says that I have to give up smoking."
Mrs. Charles—"Oh dear! Can't you hold out until I have enough coupons for the parlor clock?"

Announcement

This store paper is issued in the interests of our customers and will be sent out each month. Its aims are:

To acquaint our friends with the things that are happening locally to supply interesting news of our merchandise in furnish helpful information of various sorts.

Copies of this Store News will be sent FREE anywhere upon request. If your copy doesn't reach you regularly, please advise us promptly.



HAPPY NEW YEAR

To Our Customers and to All Those Whom We Hope to Call Customers—

WE WISH A MOST
HAPPY NEW YEAR.
A YEAR CROCK-FUL OF
GOOD HEALTH AND
PROSPERITY.

We wish also to thank each and every one for their friendship and their patronage and we shall make every endeavor to merit your continued patronage because we realize that without the friendship and patronage of our customers we could not be successful, but the fact that we are successful indicates that we have succeeded in pleasing those who buy of us.

By offering best quality goods, courteous and efficient service and the fairest of prices, we hope to make your every visit here during 1922 both pleasant and profitable.

M. F. DRESSLER HOWE CO.

Wear a smile—it's cooler in summer and warmer in winter than a frown and cheaper than most clothes you can get nowadays.

Look back at your failures only long enough to profit by the lessons they teach. Then forget them and look to the future.

If you don't find joy along the way, you'll never find it at the end of the journey.



Local News

The heating department of M. F. Dressler Hardware Co. is installing a mechanical heating plant in the \$75,000.00 St. Vincent Church now under construction at Osseo, Minn.

Through an arrangement made recently with the Minneapolis Heat Regulator Co., the M. F. Dressler Hardware Co. is now in a position to supply you with one of these economical conveniences for your heating plant. See advertisement on page 2.

The North Commons skating rink is a fine place to go for all those who enjoy this form of sport, and at Fairview Park and the Lilly Hills, a fine time may be had sliding or skating. See last page for specials on sleds, skates and skis.



Phone us Your Wants

When you are unable to make a trip to our store, just call or dial Cherry 2162. We will see that you get what you want, and the same careful attention and prompt service that you receive in the store will be given to your each and every order.

M. F. DRESSLER HARDWARE CO.

Front Page of Store Paper, Published by the M. F. Dressler Hardware Company, Minneapolis, Minnesota.

preachment and couched in agreeable phrases.

Even the most confirmed dyspeptic will find enough for smiling in the admonition:

"Wear a smile—it's cooler in summer and warmer in winter than a frown and cheaper than most clothes you can get nowadays."

The concluding paragraph of the second column of this front page condenses into a single sentence a

the store paper on a friendly footing with the reader. The column concludes with a bit of service which is certain to be genuinely appreciated by the patrons of the store.

This service links the telephone of the Dressler Hardware Company with the homes of its customers. It talks to them directly, saying:

"When you are unable to make a trip to our store, just call or dial

tary Gas Range with Lorain Oven Heat Regulator.

A commendable feature of the "Store News" is the plain statement of prices in connection with every commodity mentioned.

When reinforced by local news-

Gets Employment Through Ad in AMERICAN ARTISAN.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

Please discontinue my Want Ad in your paper as I have obtained a

Mrs. Fred E. Muzzy Passes Away.

Word comes from Springfield, Massachusetts, that Callie Marshall Muzzy, wife of Fred E. Muzzy, who is well known to the hardware trade, died suddenly of heart failure, February 17th, at her home in that city.

She was born in Middletown, Ohio, in April, 1859. When she was four years old her parents moved to Galva, Illinois, where she was educated.

On May 14, 1890, she married Mr. Muzzy and they lived in Minneapolis, Minnesota. They came to Springfield in March, 1900, and that city has since been their home.

Although a great home lover she had traveled extensively and was loved wherever she went for her charming personality and loving disposition. Besides her husband she leaves one sister, Mrs. Rachel Root of Lincoln, Nebraska, a number of nephews and nieces in the West and relatives in Vermont.

The funeral services were held in her home in Springfield, and the body was taken to Geneseo, Illinois, for burial in Oakwood cemetery, where short services were held in the Muzzy chapel, erected by her husband five years ago.

Can Always Figure on Results from AMERICAN ARTISAN.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

I wish to thank you for your kind treatment and past favors you have given me. Yours is surely the only paper from which man can figure on getting real results.

Yours respectfully,

G. C. DAVIS.

—, Iowa, February 27, 1922.

Rainbow chasers get at least a run for their money.

* * *

When you have recommended goods more highly than they will stand, you have sprouted a dissatisfied customer.

January Sale of White Housewares

White Enamelled Ware

Here's a January White Sale that's a little out of the ordinary, but it is of importance to women who want to save money on new cooking utensils. Every piece of our white enameled ware has been re-marked and prices have been greatly reduced—now is the time to add to your kitchen outfit with a few pieces of this triple coat, durable and easily cleaned white enameled ware.



Tea Kettles, worth \$2.75, now...\$2.00



- Coffee Pots, worth \$1.50, now... 1.00
- Water Pails, worth \$2.00, now... 1.48
- Dish Pans, worth \$2.00, now... 1.35
- Wash Basins, worth \$1.50, now... 1.10
- Drip Pans, worth \$1.60, now... 1.20
- Mixing Bowls, worth 50c, now... .30
- Pudding Pans, worth \$1.00, now... .75
- Sink Strainers, worth \$1.00, now... .75
- Vegetable Strainers, worth \$1.25, now... .50
- 4-qt. Lipped Sauce Pan, worth \$1.50, now... 1.25
- 4-qt. Berlin Covered Sauce Pan, worth \$1.75, now... 1.39
- 6-qt. Berlin Covered Kettles, worth \$1.75, now... 1.48

ALUMINUM WARE



This month we are offering to you our entire line of Aluminum Ware at prices that are lower than they have been for years. You should make your selection now while our stocks are complete.

- Percolators, worth \$1.50, now... 1.40.98
- Percolators, worth \$2.25, now... 2.48
- Tea Kettle, worth \$4.00, now... 2.75
- Tea Kettle, worth \$5.00, now... 3.75
- Tea Kettle, worth \$8.75, now... 5.00
- Tea Kettle, worth \$9.25, now... 5.00
- Tea Kettle, worth \$9.50, now... 5.25
- Roaster, special at \$1.39, now... 1.00
- Roaster, worth \$4.75, now... 3.00
- Roaster, worth \$6.25, now... 4.50
- Roaster, worth \$7.20, now... 5.00
- Collanders, worth \$1.85, now... 1.00



Deviled Shrimp

1 1/2 cups cooked shrimp, 2 tablespoons butter, 1/2 teaspoon cayenne, 1/2 teaspoon salt, 1/2 cup buttered bread crumbs, 2 tablespoons flour, 1/2 teaspoon paprika, 1 cup milk.

Melt the butter in a saucepan, add the flour and seasoning, stir until smooth, add milk and cook until thickened.

Fold in the shrimp and turn mixture into buttered Ramekins.

Sprinkle the buttered crumbs over the top of each Ramekin and bake in a moderate oven until browned.

Mrs. Rainbow

Ramekins

A set of these handy ramekins are almost indispensable to the good cook—for custards—baked beans and other baked foods which are to be served individually. We have ramekins in baking glassware. Price at 25c, 30c and 35c each.

Store Editorial

No matter how much we try to avoid mistakes, things are apt to go wrong at times in spite of our carefulness, and it's such times that we are guarding against when we tell you to come right back and make a complaint if you are not entirely satisfied—and don't feel a bit backward in doing so.

The pleasing of every customer is all important with us, and we always endeavor to live up to our guarantee of satisfaction with every purchase. We can do this if you will let us know immediately, should anything go wrong.

M. F. DRESSLER HOWE CO.

M. F. Dressler Hardware Co. 814-816 West Broadway

Second Page of Store Paper, Published by the M. F. Dressler Hardware Company, Minneapolis, Minnesota, Showing Interesting Variety of Topics.

paper advertising, a store paper of the high character of the Dressler Hardware Company's "Store News" can not fail to increase the list of patrons of the store and to present the business as a distinct institution—friendly, helpful, honest, and sincere—to the people in the trade territory of the establishment.

position from the many answers received.

I consider your journal the best trade paper for the hardware dealer or worker and I wish to thank you for your service.

Yours truly,

ROY EDER.

—, Wisconsin, February 27, 1922.

Suggestions and Plans for Window Displays.

Instructive Examples from Exhibits in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

Makes Good Display of Skates and Supplies.

Ever since the days of Euclid—and no one knows for how many years before his time—teachers and clerks, teamsters, and all kinds of people have been learning that two and two make four.

With each generation, nay, with each rising of the sun, it becomes

advertising consists in letting people see the commodities which are offered for sale.

All the rest of the art of window trimming is an elaboration of this primary truth.

The more thoughtfully and persuasively the goods are shown for the consideration of the buyer, the more likely it is that they will be purchased.

suggestions of their desirability.

From this angle of the matter it is important to place the commodities in such an arrangement and with such background and emphasis as will add the element of persuasion.

Take, for example, the simple display of skates and skating accessories arranged by M. E. Klasky for the Kelly Duluth Company, 118



Window Display of Skates and Related Supplies, Designed and Arranged by M. E. Klasky for the Kelly Duluth Company, 118 West Superior Street, Duluth Minnesota.

necessary to repeat the old truth that two and two make four.

If any apology is needed, therefore, for the repetition of a widely known truth, it is to be found in this necessity of repetition everywhere.

This is the justification for saying again that to sell goods you must show them to the customer.

The pith and marrow of window

Showing goods does not mean merely placing them where they can be seen.

Otherwise, the science of salesmanship would be as simple as two and two make four.

Selling is essentially a matter of coordinating ideas with needs or usefulness.

Showing goods, therefore, implies presenting them to the eye with

West Superior Street, Duluth, Minnesota, reproduced in the accompanying illustration.

Note the absence of multiple detail.

Just enough articles are shown to convey the impression of desirable coordination of skates with sweaters, gloves, etc., which suggest the sense of comfort and protection against cold in the use of

the skates.

Especially commendable in this window display is the lighting arrangement.

Every article is distinct and perceivable at the first glance.

Patches of white are scattered throughout the exhibit in such a way as to afford the strong contrasts which help individualize the various goods on display.

The unoccupied spaces in this window display have the same effect in arresting attention that the liberal use of white space has in the printed advertisement.

Inasmuch as window advertising is, to a considerable extent, subject to the same principles as printed publicity, it is well to bear this feature in mind in preparing and putting in place window exhibits of commodities for sale.

On the whole this is an excellent example of effective window advertising. The tests of practical results as applied to this display were very gratifying.

Tells How to Take Pictures for Window Display Competition.

With a little practice, the hardware merchant, sheet metal contractor, or employee can learn to take good pictures of a window display.

Here are some clear directions from the "Viewpoint," published by the White & Wyckoff Manufacturing Company of Holyoke, Massachusetts:

Experience has proved that the best results can be obtained by photographing at night, by electric light, provided the window is properly lighted; and by making a long exposure, gauged according to the power of the lens and the nature of the goods to be photographed. A window with sharp, distinct contrasts, or one containing light colored goods, does not need as long an exposure as a display of dark colored goods, or one without sharp contrasts of light and shade.

To prevent reflections when photographing at night, especially those from across the street, have two

boys hold a screen behind the camera made of some black material.

When taking a similar photograph by daylight, use a white cloth as a screen. Otherwise the window will serve as a mirror and you will be bothered by reflections from across the street.

By the use of such a screen all reflections are avoided and a clear photograph should be secured. Do not attempt, however, to use a screen on windy days, for the wind will render it unmanageable.

As it is not probable that many photographers will prepare such a screen, it is advisable to have one made and keep it in readiness.

Then, it is well to call the photographer's attention to these points, for he may not have had experience in photographing show windows and will not readily realize the difficulties he will have to overcome.

Another method of avoiding reflections is to use a special tripod for the camera, with legs ten feet long. Such a tripod can easily be made by tying strips of wood firmly to the legs of an ordinary tripod.

The photographer will then need to get on a step ladder to focus his camera. From this height the only thing outside of the window that will reflect into the camera will be the sidewalk, and as this is a plain surface it will not show in the finished photograph.

The length of exposure required will vary according to the stop used and the quality of the illumination, but a fifteen minute exposure is enough for the average well-lighted window.

A poorly lighted window, or one containing dark merchandise, will require a longer exposure—twenty to thirty minutes, and even longer, is not unusual.

During the whole time of the exposure people can pass to and fro in front of the camera without spoiling the negative, provided they do not stand in any one place for any length of time. Naturally, however, for all-round convenience and good results the best time for photographing is when street and side-

walk traffic is infrequent, and especially when the opposite side of the street is dark.

Look out, too, for reflections from other store windows. Usually, if these points are not overlooked, the photograph can be taken when the opposite side of the street is dark and the "other fellow" will be quite willing to turn out his lights.

If there are street cars or automobiles passing, the reflections from the lights from the car windows, or of the headlights, will cause light streaks across the plate glass unless the camera is shielded by the use of a screen or in some other way.

The illumination should come from the window itself and the lights, when possible, should be so arranged as not to shine directly toward the camera lens.

Sometimes the top of the window is lighted much more strongly than the bottom of it, so that the photographs always come dark at the bottom. This can sometimes be avoided by placing two or three electric lights in the bottom of the window.

Extensions can be run for this purpose from some of the light sockets in the window. These lights can be so shielded that they do not shine directly into the camera.

Here are a few additional safeguards: Show windows lighted with the regular electric bulbs require a longer exposure owing to the fact that the light is yellow. As the ordinary photographic plate is color blind, it is advisable to correct this defect.

One leading commercial photographer advises the use of orthochromatic plates or films with or without a color correcting screen. If a yellow plate screen is used behind the lens, four times the exposure will be necessary.

Always use a lens the focal length of the diagonal of the plate used. Of course, it is sometimes impossible to do this. If the window is very large and there are street car tracks, it would not be convenient to get

out on to the tracks, especially if the street is a busy one.

Always remember that no light should shine directly into the camera. Also remember that a long exposure can not be taken if there is even the faintest wind blowing, for the slightest shaking of the camera will blur the negative.

Finally, develop for detail, avoiding too great density, and print on a glossy or semi-glossy surfaced paper.

When you get a good picture of your window display, write a description of the display and send description with photograph for entry in AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition.

Here are the simple rules governing the contest:

Award of Prizes.

The prizes will be awarded as follows:

First prize, \$50.00 in cash, for the best photograph and description received of window display of hardware or kindred lines.

Second prize, \$25.00 in cash, for the photograph and description second in merit.

Third prize, \$15.00 in cash, for the photograph and description third in order of excellence.

Fourth prize, \$10.00 in cash, for the photograph and description fourth in degree of worthiness.

Conditions of Competition.

The conditions of the competition are as follows:

The photograph must be accompanied by descriptions of how the window displays were arranged and the materials used.

The description is important and hence should be adequate.

These photographs and descriptions may be sent by mail or express, charges prepaid, and must reach this office not later than April 15, 1922.

Address all photographs and descriptions to AMERICAN ARTISAN AND HARDWARE RECORD Window Display Competition, 620 South Michigan Avenue, Chicago, Illinois.

Each photograph and description must be signed by a fictitious name

or device and the same name or device must be put in a sealed envelope containing the real name and address of the contestant.

This sealed envelope is to be enclosed with the photograph.

Contestants are permitted to enter as many photographs of displays as they please.

You may enter window display photographs of general hardware, machinists' supplies, builders' hardware, automobile supplies, sporting goods, fishing tackle, house furnishings, cutlery, dairy supplies, stoves, ranges, warm air heaters, sheet

metal, or kindred lines.

A Competition Committee of three will be appointed.

One of them will be an expert window dresser and one an experienced hardware man.

This committee will pass upon the merits of all photographs and descriptions received, without knowing the names or addresses of the senders, and will decide the winners of the competition.

AMERICAN ARTISAN AND HARDWARE RECORD reserves the right to publish all photographs and descriptions submitted.

Vonnegut Links Newspaper Advertising with Window Demonstration with Good Results.

Four Column Advertisement Draws People to Store Windows; Demonstrator Moves Them Into Store to Buy.

THE other day while passing down Washington Street, in Indianapolis, I noticed a big crowd on the left side of the street, and upon investigation found that the crowd was interestedly watching a demonstrator in one of the show windows of the Vonnegut Hardware Company.

There were so many people in front of that window that those who wanted to pass by almost had to step into the street to do so.

Being of a stature somewhat above the average I was able to note a good looking young woman making some sort of movements, but could not see just what kept the crowd so interested, until by patient waiting and some personal effort I got closer to the window, when I observed her holding what appeared to be a miniature machine gun or a magnified automatic pistol in her right hand.

But instead of it being a thing to shoot bullets with it proved to be a tool for "shooting" holes in metal, wood, rubber, leather, etc. In fact, the name of the tool is "Hole Shooter."

The young woman demonstrator—why they always pick young and good looking women for such work is something I can't just under-

stand, but that is something else to talk about some other time—showed how easy the tool was to operate; how all sorts of attachments could be fitted to it, such as round files, disk shaped polishers, abrasive wheels, drills, etc., and how quickly the work to be done was accomplished.

She bored holes through 1¼-inch planks of pine; drilled through ¼-inch steel bars; polished silverware; sharpened knives; smoothed rough edges on welded joints and many other things.

Each different use to which the tool was put was emphasized by turning up a neatly printed card and the last point made was a sign pointing toward the store entrance with the information that the tool might be fully examined "on the inside."

The demonstration itself was acted in a persuasive way. The demonstrator was good looking, but not too good looking to draw attention away from the tool. But otherwise it would have been little different from a thousand other demonstrations of a thousand other articles—except from the fact that the Vonnegut Hardware Company spent a considerable sum of money to call the attention of the public to the

demonstration by using advertisements in the Indianapolis newspapers, one of which is shown herewith.

The original of this advertisement was 8 inches deep and 4 columns wide and is worthy of note for more than one reason:

In the first place, the border is unique, in that it shows three sizes of holes "shot" by the "Hole Shooter"

which is contained in the "magazine" part of the tool.

From what I saw on the outside of the store and from what the manager of the tool department told me, I know that the demonstration was a success.

It sold the tools—plenty of them.

Any dealer or sheet metal man who desires to know where the "Hole Shooter" can be secured,

Charles M. Biddle Passes Away in Florida.

At the age of seventy-eight years, Charles M. Biddle, chairman of the board of directors of the Supplee-Biddle Hardware Company, Philadelphia, Pennsylvania, passed away, February 21st, at his winter home in Hibernia, Florida.

He was born February 3, 1844, in Philadelphia, and received his education in that city.

When 17 years of age he became an apprentice in the firm of R. and W. C. Biddle & Company and worked his way up to a partnership in the business, eventually becoming its sole owner.

In 1914 he bought the Supplee Hardware Company and formed the corporation of Supplee-Biddle Hardware Company.

He continued active in the hardware jobbing trade until about a year and a half ago.

Coming Conventions

Sheet Metal Contractors' Association of Illinois, Rock Island, March 8 and 9, 1922. G. J. George, Secretary, 523 East Jefferson Street, Springfield, Illinois.

Master Sheet Metal Contractors' Association of Wisconsin, Milwaukee, Wisconsin, March 15 and 16, 1922. Oscar A. Hoffmann, Secretary, Milwaukee, Wisconsin.

Iowa Sheet Metal Contractors' Association, Russell Lamson Hotel, Waterloo, Iowa, March 29 and 30, 1922. R. E. Pauley, Secretary, Mason City, Iowa.

Jobbers' and Salesmen's Auxiliary to the Iowa Sheet Metal Contractors' Association, Russell Lamson Hotel, Waterloo, Iowa, March 29 and 30, 1922. C. F. Anderson, Secretary, Des Moines, Iowa.

North Carolina Sheet Metal Contractors' Association, Greensboro, North Carolina, April 6, 1922. George L. Ray, Secretary, Charlotte, North Carolina.

American Hardware Manufacturers' Association, Spring Meeting, St. Charles Hotel, New Orleans, Louisiana, April 18, 19, 20, and 21, 1922. Frederick D. Mitchell, Secretary-Treasurer, 4106 Woolworth Building, New York City.

Southern Hardware Jobbers' Association, St. Charles Hotel, New Orleans, Louisiana, April 18, 19, 20, and 21, 1922. John Donnan, Secretary, Richmond, Virginia.

Old Guard Southern Hardware Salesmen's Association, New Orleans, Louisiana, April 19, 1922. R. P. Boyd, Secretary-Treasurer, Knoxville, Tennessee.

National Warm Air Heating and Ventilating Association, Hotel Winston, Cleveland, Ohio, April 19 and 20, 1922. Allen W. Williams, Secretary,

THE HOLE SHOOTER

The Drill You've Waited For

Only

\$5

Down—



8

Months
To Pay

Perhaps you've always had a desire for a light weight, sturdy, portable electric hand drill that would drill small holes in anything with high speed accurate efficiency. Your desire is answered in the "Hole Shooter." Beyond doubt, the Hole Shooter is the most serviceable electric hand drill made. It "shoots" holes in metal, wood, rubber, leather, asbestos, etc. Capacity in steel 1/4 inch; in wood, 5-16 inches. Outlasts and outworks heavy, high-priced drills.

Try This Drill Yourself

We are demonstrating the Hole Shooter daily in our store. Try it yourself. Make us prove everything we claim for it. The greatly increased production you will enjoy through the Hole Shooter will more than take care of the monthly payments.

Price \$45.00. Eight months to pay. Guaranteed to be free from all defects of manufacture for one year.

VONNEGUT HARDWARE COMPANY

120-124 East Washington Street

THE HOLE SHOOTER

er." The name of the tool is shown in the insert in the top and bottom part of the border and is also produced by "shooting" holes into the zinc plate.

Then also note the offer to sell the "Hole Shooter" on "payments," and the suggestion to the prospective purchaser that the possession of this tool will increase his facilities for serving his own customers.

It would seem that a tool of this sort ought to have a place, not only in the stock of most hardware stores, but also in the shops of most sheet metal contractors, for it certainly does the work quickly and with little or no personal effort on the part of the workman, being operated by a small electric motor

may write to AMERICAN ARTISAN AND HARDWARE RECORD.

Trade Mark Is Registered for Dish Washing Machine.

Under number 136,814, the Sanitary Dish Washing Machine Company, Milwaukee, Wisconsin, has obtained United States Patent Office registration for the trade-mark depicted herewith. The particular

SANITARY SERVANT

136,814.

description of goods to which it applies is dish washing machines. Application for registration was filed September 3, 1920, and the Company claims use of this trade-mark since November 10, 1919.

Thompson Realty Building, 82 North Front Street, Columbus, Ohio.

Missouri Sheet Metal Contractors' Association, Joplin, Missouri, April 28, 1922. Otto E. Scheske, Secretary, 2725 Morgan Street, St. Louis, Missouri.

Panhandle Hardware and Implement Association, Amarillo, Texas, May 8 and 9, 1922. C. L. Thompson, Secretary, Canyon, Texas.

Southeastern Retail Hardware and Implement Association, Convention and Exhibit, May 9, 10, 11, and 12, 1922, Chattanooga, Tennessee. Walter Harlan, Secretary, 460 St. James Building, Jacksonville, Florida.

Western Warm Air Furnace and Supply Association, Indianapolis, Indiana, May 15, 1922. John H. Husie, Secretary, 2407 Cuming Street, Omaha, Nebraska.

Sheet Metal Contractors' Association of Indiana, Indianapolis, Indiana, May 15, 1922. Ralph R. Reeder, Secretary, 312 East Sixteenth Street, Indianapolis, Indiana.

Hardware Association of the Carolinas Convention, Winston-Salem, North Carolina, May 17, 18, 19 and 20, 1922. T. W. Dixon, Secretary-Treasurer, Charlotte, North Carolina.

National Association of Sheet Metal Contractors' Convention and Exhibition in the Cadle Auditorium, Indianapolis, Indiana, May 16, 17, 18, and 19, 1922. Edwin L. Seabrook, Secretary, 608 Chestnut Street, Philadelphia, Pennsylvania.

Mississippi Retail Hardware and Implement Association Convention and Exhibit, Fair Grounds, Jackson, Mississippi, May 24, 25 and 26, 1922. Headquarters, Heidelberg Hotel. E. R. Gross, Secretary-Treasurer, Agricultural College, Mississippi.

National Retail Hardware Association, Chicago, Illinois, June 19, 20, 21, 22 and 23, 1922. Headquarters, Hotel Sherman. Herbert P. Sheets, Secretary-Treasurer, Argos, Indiana.

Associated Advertising Clubs of the World, Milwaukee, Wisconsin, June 11, 12, 13, 14 and 15, 1922. Carl Hunt, Secretary, 110 West 40th Street, New York City.

Master Sheet Metal Contractors' Association of Ohio, Zanesville, Ohio, July 18 and 19, 1922. W. J. Kaiser, Secretary, 123 East Chestnut Street, Columbus, Ohio.

Retail Hardware Doings

Arkansas.

Mr. Newton has opened a hardware store at Portland. It is known as the Newton Hardware Company.

Illinois.

Arthur Wright of Carthage has opened a new hardware store which he will operate in connection with his plumbing and heating establishment.

George A. Essig of Melrose Park has purchased the Brazelton and Smith hardware store at St. Charles.

Indiana.

The hardware store of Mr. Woodworth of Linden has been sold to Hurst and Lancaster of Greencastle.

The E. B. Schenk Hardware Company of Mt. Vernon has been incorporated with a capital stock of \$25,000.

The construction of a \$13,000 addition

to the Broadway Hardware Company at 1086 Broadway, Gary, has been started.

Iowa.

Roy Spurgeon has purchased the hardware store of J. H. Sampson in West Grove.

The Fred Leonard hardware stock at Collins has been purchased by Walter Skinner.

Tom Morris, owner of the Morris Hardware Company, 200 West Douglas Avenue, Wichita, has leased the building next door and will have both stores made into one large salesroom.

Kansas.

Jack Allen has sold his hardware business at Potter to Robert Blodgett.

Michigan.

Ray Barnes of Burlington has bought out the interest of Rastus Howland in his hardware and farm implement store in Burlington.

N. H. Rediger of Pioneer has sold his store building and hardware stock to F. H. Spear.

Minnesota.

A deal was closed whereby William Bredemeier became the owner of the Baarsgaard Hardware store at Barnesville.

The Bemis Hardware store of Ruthton has been completely destroyed by fire.

The Norther Hardware and Plumbing Company of Crookston has been incorporated with a capital of \$15,000.

Louis Stolcis has purchased the interest of his brother Charles in the hardware business of Stolcis Brothers at McGregor and will continue the business alone.

J. T. McCarthy has purchased the building and hardware store of P. O. Biren at Green Isle.

Edwin and Robert Beske have purchased the hardware store of their uncle, Emil Beske, at Hector.

Henry Nussloch, Sr., in active business for thirty years, has retired. His hardware business will be continued by his son and grandson.

Missouri.

The Long-King Hardware Company has been incorporated with a capital of \$10,000. Incorporators are: J. L. Long, C. W. Long, R. H. Long, J. F. Long, J. E. King, D. H. Lutz, H. N. Epps and Lon Sharps.

Moses Woods has opened a hardware store at Excelsior Springs on Thompson Avenue.

G. L. Brown has traded his hardware store at Odessa to Wiedman Brothers for a farm.

O. L. Moore has sold his interest in the Chilhowet Hardware Company at Chilhowet to his partner, R. J. Cowan, who is now sole owner. Mr. Moore recently moved to Clinton and is owner of the Clinton Hardware Company.

The Long Hardware Company of Springfield has been incorporated with a capital of \$10,000.

John N. Jackson, who has been in the employ of the Robertson Hardware and Implement Company at Springfield, has bought a half interest in the business and the firm name has been changed to the Tindle and Jackson Hardware and Implement Company. Mr. Robertson has retired.

Nebraska.

W. B. Graul has purchased the hardware business of Bristol & Company at Wilber.

J. H. Butler of Norfolk has put up temporary quarters of his hardware store which was recently burned.

North Dakota.

G. B. Everson has sold his stock in the Everson-Johnson Hardware Company at Williston to Oscar Jarrell, G. F. Jarrell and Mel. Snellenberger.

Aarestad Brothers and Trosoth have sold their hardware business at Hannaford to Carl and Henry Oien, who will operate under the name of the Hannaford Hardware Company.

The hardware firm of Lewis and Wright of Rolla has dissolved partnership. Mr. Lewis is now sole owner.

Ohio.

The hardware store of John Keim and Sons of Louisville has been sold to George C. Cherdon, Anson Bechtel, Raymond Immel and Joseph Weisent. These men will incorporate under the name of The Louisville Hardware and Supply Company.

A deal has been completed whereby John and Isadore Nolte became owners of the Union Hardware store at Delphos.

Thomas Kennedy has sold his hardware and implement business at Botkins to his sons, Edward and Arthur.

Harry A. Young has purchased the interest of M. H. Spreng in the hardware firm of Young and Spreng at Loudonville.

Thibaut and Mautz Brothers, hardware merchants at Marion, have moved from 119 East Center Street to 147 South Main Street.

Tennessee.

The hardware store of Beever Brothers at Jellico has been sold to Grant Siler and Ernest Jones, and will be known as the Jones-Siler Company.

The Bowers Hardware Company has been incorporated at Nashville with a capital of \$10,000. Incorporators are: Harry A. Miller, P. D. Cate, Earl Hornell, J. W. Bowers, S. H. Douglas and C. C. Leeper.

Texas.

A. G. Koenig of Beaumont has purchased the interest of E. A. Chambers in the Harris-Chambers Hardware Company at Denton.

Washington.

The Smith Implement and Hardware Company of Walla Walla has taken over the business of the John Smith Company. E. E. Barnett of Bellingham is to be manager of the new concern.

Wisconsin.

Art Braunschweig has purchased a hardware store at Lebanon.

G. L. Bohn has purchased The Cramer Hardware store at Baraboo.

M. S. Barker of Crandon has sold the stock of the Triple Hardware Company to Schmutzer and Luteran.

A new store, the Central Hardware and Paint Company, has been opened on Washington Street, Green Bay.

E. D. McNett of Cuba City has retired from business.

Melvin Knudtson of the firm of Knudtson and Ronken at Coon Valley has sold his interest in the business to George Ronken. The new firm will be known as Ronken Brothers.

The Park Falls Hardware Company, Park Falls, has been incorporated with a capital of \$25,000.

Study and Interpretation of Advertisements.

You Can Make Your Advertisements More Gainful by Avoiding the Faults and Profiting by the Good Qualities of Others.

Opinions vary as to the advisability of using the word "guarantee" in an advertisement.

If it is applied to one or two items of the advertisement, it may cause the inference to be drawn that other articles listed in the copy are not of such quality and structure

Doubt is not a favorable impression to produce in connection with an advertisement.

It weakens confidence.

One reading this advertisement and noting that the shears and bell transformers are guaranteed, while the block planes are not guaran-

A guarantee is more or less a vague pledge anyhow.

In many instances it costs more in time and effort and worry to get a replacement of a guaranteed article than the article is worth.

Moreover, in numerous instances, adjustments are made grudgingly and with poor grace.

It may seem to be more or less a matter of hair splitting to single out one word of an advertisement for criticism.

But often such seemingly insignificant things are of major importance in the success or failure of advertising.

The United Hardware and Tool Company is noted for the general and sustained excellence of its advertisements.

Typographically as well as textually they are forceful, persuasive, and attractive.

There is no question as to the advantage of associating an advertised commodity with a nationally known trade-mark.

If the shears, bell transformers and block planes listed in the advertisement under consideration are products of manufacturers who carry on wide and persistent publicity for their output, then it would be wise to take advantage of this general publicity in featuring these articles.

This is not a criticism; it is a suggestion.

Naturally, every hardware man is interested in getting as much power as possible into his copy.

Beyond cavil, power is to be had from preliminary work of general publicity which prepares the mind of the prospective customer for a favorable reception of a local advertisement featuring nationally advertised goods.

* * *

Just as there is good and poor salesmanship, so is there good and poor advertising.

BIG SHEAR SALE



Guaranteed Steel
Shears. All sizes.
Regular 90c to \$1.50
value.

69c

Every pair is guaranteed not to break.
Don't miss this—it has *them all beat*.



**Bell
Transformers**
Good guaranteed Bell Transformer, regular \$1.50 value, very special at..... **98c**



Block Planes
7½-Inch Block Plane with 1½-Inch cutter, special at..... **98c**

UNITED
HARDWARE & TOOL CO. INC.
306 PROSPECT AVE.

12507 St. Clair 5508 St. Clair Hough-av at E. 79th

as to warrant the full confidence of the prospective buyer.

For example, in the advertisement of the United Hardware and Tool Company, reproduced herewith from the *Cleveland Press*, Cleveland, Ohio, two of the three articles listed are guaranteed.

Some persons reading the advertisement will be likely to wonder why the block planes are not also guaranteed.

ted, is likely to make the deduction that the block planes are not of dependable quality, particularly in view of the fact that no trade-mark or name of manufacturer is used to identify the product.

It would be an element of strength in this advertisement if, in connection with the guarantee, the name of the manufacturer were given as standing back of the guarantee.

Facts of Warm Air Heating and Ventilating.

Reports of Progress in Warm Air Heater Research Work. Ventilating Factories, Theatres and Other Buildings.

Changes Occur in Personnel of American Furnace Company.

Experience, close fellowship and loyalty are the three factors which have been intensified by the changes recently effected in the organization of the American Furnace Company, St. Louis, Missouri.

A short time ago Harry, Van Bayse, President of the Company, bought the interests of W. D. Harrison, Secretary and Treasurer.

C. S. Franke, son-in-law of President Harry Van Bayse, was elected to succeed Mr. Harrison as Secretary and Treasurer and was also made one of the directors of the Company.

Mr. Franke is a son-in-law of Mr. Van Bayse and is expected to act for the second generation of the family, as he married the only child of Mr. Van Bayse.

The new Vice-President of the Company is James F. Kent, who began with the American Furnace Company as a boiler maker twenty odd years ago and whose knowledge as a boiler maker at that time was diverted to work as a sheet iron mechanic.

After ten years, he was made foreman of the department.

When the newly elected Vice-President, James F. Kent, came into the employment of the American Furnace Company, James Quinn was working on a sheet iron floor. Mr. Quinn is now one of the new directors of the Company and has its interests closely at heart.

All the new officers of the American Furnace Company are as members of one family, cooperating for the common good and having pride in the maintenance of standards of quality and service.

Now, don't think for a minute that there were no heating plants sold in Townsville in 1921 in spite of the depression and low price of corn and oats and hogs and cattle.

Who sold them? Why, that young fellow down the street, back from France in 1919 and ready to go. He had a little 2x4 shop, with a girl at the 'phone as his chief help. He drove around in his little old Ford. He never let a prospect die of old age. He used no expert or high pressure salesmanship. He knew the goods, and he knew his people.

Jones and Company had slipped. They had taken the easiest way and the shop is for sale.

There are a good many Jones and Company in the hardware game. Their overhead remains the same. Their volume has decreased. They dropped from carload buyer to local buyers, not only on furnaces but also on stoves and ranges as they lost the chance they had before of buying in mixed cars and they were licked when it came to the volume.

Example after example may be cited in the best State of the Union.

They blame the price cutter. They blame the high prices of standard goods. They blame everybody but themselves. They forgot that they had always had price to contend with in years gone by and they had been successful.

No, it isn't price that put their shop out of the running.

The installment furniture house never pays very much attention to price. Still, there are establishments of this nature that retail from 200 to 500 heating plants and find it a nice addition to their volume and profit.

The trouble with Jones and Company is that things came too easy in '19 and '20. They made money overnight marking up goods, including the furnaces that they had

A Veteran Salesman Gives Some Straight from the Shoulder Jabs in the Following Article.

The Years 1919 and 1920 Made You Soft, He Says, and You Are Now Waiting for Something to Turn Up. You Must Hustle.

IN the year 1920 John Smith felt prosperous and wanted to keep up with his neighbor by putting a heating plant into his home.

Jones and Company of Townsville have been in the hardware business there a good many years, had enjoyed the confidence of the people and had a fine up-to-date store.

Of course, they had a shop and had a high-grade furnace business, a good tinner and knew the business. They sold a car or a car and a half every season and were well satisfied with the shop returns.

So when John Smith thought furnace he thought of Jones and Company. He stopped into the store and Jones showed him a dandy line-up of high-grade heating plants, ev-

eryone sold to a neighbor or friend, this one went to Henry Meyer, this size was intended for Joe Small, that one for Jim Harper, etc., and the last one in the line was spoken for by Will Henry, although he had paid nothing down on the job.

"How much will it cost to put this into my home?" asked Smith.

"Oh, about \$400.00, besides the labor," Jones replied.

"Well, here is my check for \$400.00. That's my furnace"—and Smith had bought a heating plant.

In 1921 Jones and Company did not sell a single heating plant. They really did not sell them in 1919 nor in 1920. The consumer took them from them and thanked them for having them in stock.

bought and then got to playing golf.

No, it was not price, it was genuine hustling on the part of the other fellow that got him the flying start.

Why not take an inventory of yourself and get back lost ground? Why let volume get away from you because you think you have to put in nothing but pipe jobs?

You must realize that you have an added advantage over the dealer who handled only the one kind. You are equipped to sell to the new home just being built and you have a prospect for a pipeless in every home with a cellar, or rather in every home that needs heating.

No, the manufacturer is not to blame. He has spent more money than ever before, adding sales help its sales help and getting the least cooperation of any time from his connections in the retail trade.

He is the one to have reasons to complain. Give him just a fair chance and he can put you back into the game right. But your attitude must be positive and you have got to be the same aggressive merchant you were in the early days when you fought for a start.

Don't you think there is something wrong with your method when a stranger can come into your town, represent himself a direct agent for the manufacturer, hire the man you discharged as incompetent, get a running start and sell heating plants to your neighbor? It is not price, it's his method.

You did not let the mail order concerns put you out of business. You did not fill your shelves with a lot of junk to compete, no, not a darn side, you bought high-grade merchandise. You learned the selling talks. You showed the advantage and the prestige of good wares and you sold them.

The years 1919 and 1920 made you soft and you are now waiting for something to turn up.

I have in mind a store I recently called on that boasted of three partners. Business was dull and the Hot Stove League was in full action.

There was nothing to prevent the

bunch from going after the business. They had a line of pretty near every specialty that was in the daily use of the farmer and their vicinity was not broke, either. It seemed such a waste of opportunity, and it's not an isolated case.

All the money that is spent in advertising is lost without a concerted effort on part of the retailer to cash in on it.

No, it is not price and it is not the manufacturer's fault. He helped you make easy money when he delivered at times when others were holding up shipments. He many times gave you the advantage of an advance so that all you had to do was mark up your goods and feel that you had made money.

The same effort you showed to improve your game of golf applied to your business would have made you fight harder and made you win.

For, mark you, these times are not coming back in a hurry. You will have to earn what you get and it's up to you whether you are going to let the fellow down the street put you completely out of the running or not.

Just look at his methods. He is the fellow that goes from house to house and agrees to give them advice in regard to the handling of their heating plant, to look it over free of charge and tell his customers whether any change is for the better, incidentally jotting down just about how long that old plant will stand up and making a prospect.

He is next to the lumber man and knows who is going to build and who is going to remodel.

He is canvassing the country with a wash machine or an electric light plant and he is finding out who will need a new separator or a new furnace and he is letting his manufacturers in on the secret, so that the dope is sent out and the prospect is kept alive.

He does not wait until October to sell heating plants. He shows the consumer his predicament if he waits until then to place his order. He offers his help on every job sold where the clerks bring in the prospect or work up the sale.

He has a souvenir for the customer who gives him the name of a live prospect. This is all old stuff but it will be in use from now on more than it was in the last three years.

You deride the small shop man. He putters along for a year or two, then he begins to buy in car lots, his credit gets better and he has stepped into your place, not because he was any better than you are but because you let him.

A couple of kids were playing in the mud and having a good time until mother called them in and after scolding them, pointed out the children across the way in their neat and clean clothes.

"Children, why can't you be like those little children and be neat and clean?"

"Oh, mother, but they are not children, they are pets."

Are you a pet?

Prominent Furnace Dealer Uses Strongly Personal Publicity.

In point of years one of the oldest, but in persistence and enthusiasm one of the youngest warm air heater dealers and installers in Grand Rapids, Michigan, is Charles S. Weatherly "the furnace doctor and the real furnace man," as he terms himself.

In almost every imaginable way he keeps up a constant pressure of publicity for his business.

Indeed, without much exaggeration, it might be said that he is as continuous in his advertising as he is in his breathing.

He neglects not the smallest opportunity to repeat in a strongly personal tone his message to the people of Grand Rapids.

Not only does he have striking sentences in his newspaper publicity and on every thing from his store front to his automobile that will carry announcements of his business, but he uses a series of rubber stamps for carrying on his campaign.

Here are some of the texts of the rubber stamps used upon every available opportunity:

"I don't want to holler too loud so the neighbors will hear, but you ought to remove the old furnace and install a Mahoning."

"That was a pretty bad mix-up your old furnace playing out. Better get a new one and use less fuel."

"I am just an old friend of yours, friend of everybody who wants a furnace. Is it not about time you should be thinking about installing a new up-to-date furnace or remodel the old one?"

"Wouldn't you like to get rid of that old furnace and install a Mahoning?"

"Every home should have a good furnace. Better install a Mahoning."

"I am sorry on your account, but I am glad on my account, that you have got to have a new furnace."

"You can have a warmer house if you call the 'Real Furnace Man', Weatherly Phone 67-454."

"Installing furnaces—that's our business."

"Charles S. Weatherly, 'The Furnace Doctor and the Real Furnace Man,' 949 Cherry Street, South East, Grand Rapids, Michigan."

"You know that Weatherly is the 'Real Furnace Man.' What's the need of trying any others?"

"When you get Weatherly, the 'Real Furnace Man,' to install your furnace, you not only get a furnace but you get a real service to go with it. 949 Cherry Street."

Mr. Weatherly has the wisdom to select a standard line of warm air heaters and knowing its qualities and performance in every set of circumstances, he keeps it before the people by name.

In Grand Rapids, all you need to say is "a Mahoning" when you want to convey the idea that you're talking about a warm air heater.

Mr. Weatherly uses the name so frequently and in such various forms and occasions that practically everybody knows it and what it stands for.

air furnaces with large pipes and registers, thereby producing a more rapid circulation of the air within the room."

Let us hope that more furnace men will soon discover that nearly all warm air systems are still being made and installed with hide-bound casings, pipes and registers.

But how is it that this gentleman has discovered the flaws and remedy for the pipe, but rings down the curtain on his story without even suggesting that perhaps a pipeless would perform comparatively as well if given a casing and grating big enough to permit of easy breathing?

It is well we do not all desire the same thing; but in making comparisons and giving opinions, let us be fair and just.

In due time someone will improve or discover a better method than the present pipeless. When it arrives it will be some system, though it will meet with the same opposition and prejudice that confronted the pipeless of today. Let us bid it hurry and welcome.

Turton Says Prejudice Against Pipeless Warm Air Furnace Is Caused by Ignorance.

With Greater Knowledge of the Fundamentals of Science of Heating This Prejudice Will Disappear.

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by George W. Turton, Enterprise Foundry Company, Belleville, Illinois.

(Concluded from the Past Week.)
I HAVE taken a cold house at 45 degrees, started a fire in a pipeless and when the breathing line temperature was 70 there was a difference of 32 degrees between the ceiling and floor temperature. The draft was then closed and three hours later the difference between ceiling and floor temperature was 12 degrees; and this difference was maintained as the fire was continued under a slow draft.

Now what does all this mean?

Simply this: That it makes considerable difference how and under what conditions you test any heating system. And as our good friend has not stated these conditions we are in no position to judge

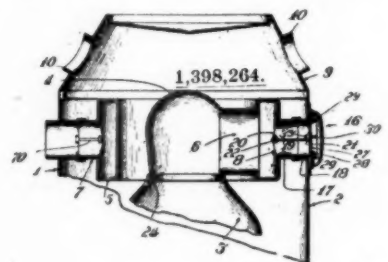
the relative merits of the systems.

It is a fact that there is a greater difference between ceiling and floor temperature with the warm air systems both pipe and pipeless due to their being circulating air systems, while steam and hot water are not. This difference under good operation is about 12 degrees. When it is 30 or more at all times with a pipeless it is proof conclusive of improper location, choked circulation or a combination of general pipeless lack of understanding.

This writer continues and produces a real climax to his story by saying: "I have succeeded in overcoming, largely, that condition (meaning difference in ceiling and floor temperature) by using warm

Patent Rights Are Granted for Warm Air Furnace.

Under number 1,398,264, Augustus F. Harter, Oak Park, Illinois, assignor to Cribben and Sexton Company, Chicago, Illinois, a Corporation of Illinois, has secured United States patent rights for the



furnace illustrated and described herewith:

1. A warm air furnace having angularly disposed cleanout openings in its outer wall, a radiator, a cleanout pipe for the radiator adjustable to extend through either opening to discharge outside the furnace, and a closure-cap set into said pipe independently of the outer wall.

Practical Helps and Patterns for the Tinsmith.

Aids to the Improvement of Craftsmanship and Business.
News from Various Branches of the Sheet Metal Trade.

PATTERNS FOR FLOWER VASE.

By O. W. Kothe, Principal St. Louis Technical Institute, St. Louis, Missouri. Written especially for American Artisan and Hardware Record.

The making of flower vases is very interesting for sheet metal men who have homes of their own; and those who have not homes can make them for some of their friends.

But all in all, most workmen unless ill fortune has overtaken them, could possess a home at this time.

Lawn vases as we show in this drawing, can be designed to a great variety of shapes and can also be made in one of several ways, that is, make the vase 4-cornered, or hexagon or octagon or 12-sided, or hammer out the members and thereby make a circular vase.

In this vase, we lay out the patterns for a hexagon and an octagon.

First draw a center line indefinitely, and on the one side detail the vase, making the members and the curves as you feel they will look well.

This means the members must be made to a proportion to suit the eye from a close vision, as well as from a distance.

The designer must be careful not to follow a similar practice of making lawn vase members, the same as he would members on a 4 or 5 story building.

The matter of designing art is quite a study and it is not an easy matter to work out a unique design where all members have intimate relation to one another.

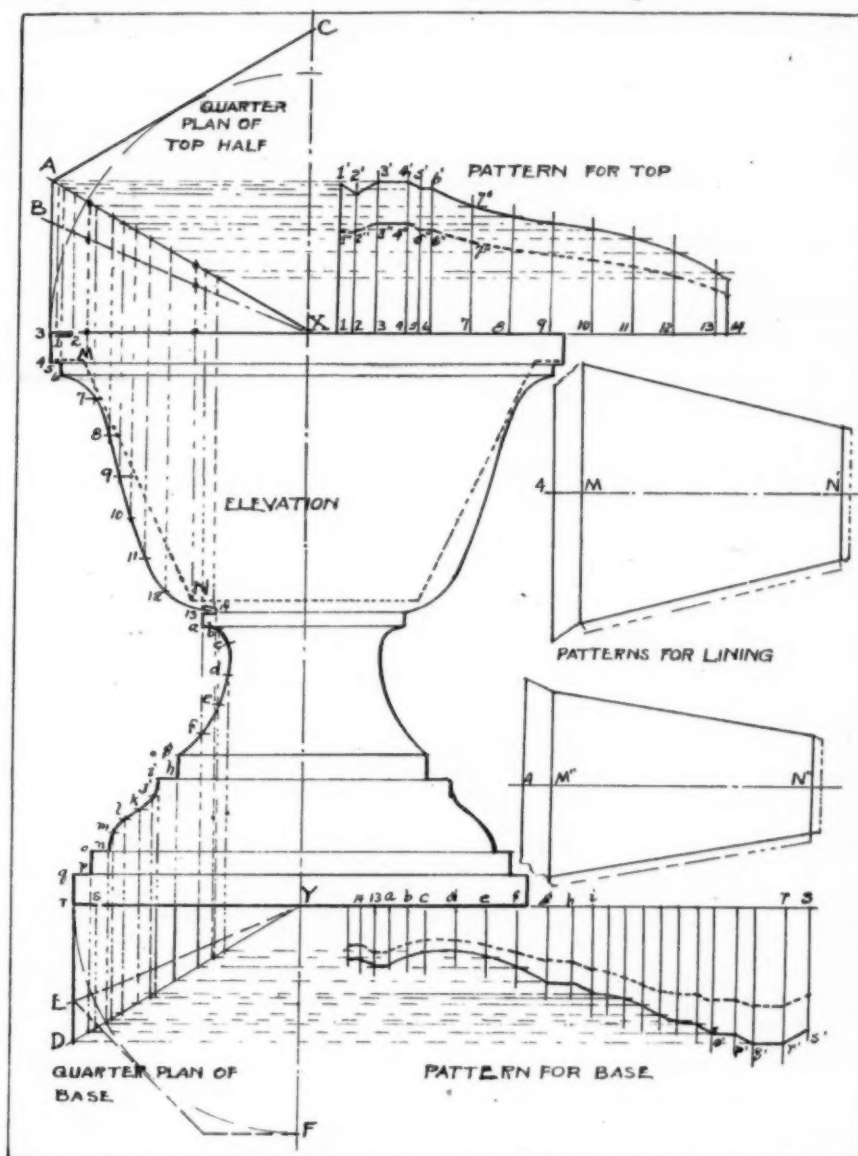
After this, we divide all curved lines in any number of equal spaces, number each point and bend as shown.

A seam line is generally made between the bowl and the stand, as in point 14.

Now for a hexagon, we draw a quarter plan as 3-A-C. Observe the line A-C is tangent with the quarter circle, since the quarter circle starts with point 3 and is tangent to the line 3-A.

from 14 to 3, we drop lines to the miter G-Y.

After this we pick the girth as 1-2-3-4-5, etc., to 14 from elevation and set on a line as 1-14 in pattern for top.



Patterns for Flower Vase.

This enables drawing the miter line A-X. In the same way for the base we have the miter line D-Y for the hexagon.

Now from each point in the elevation as from 1 to 14, we erect lines to the miter line A-X in points shown.

Then from each point in the base

This line should be an extension from 3-X of plan.

From each of these points erect stretchout lines and then from each point in the miter line A-X, project over lines to intersect those in stretchout of similar number as in points 1'-2'-3'-4', etc.

Trace a line through these points

of intersection and you have the pattern for the top.

As this is only a half pattern, the other half must be reversed, and then all the other 5 sides can be marked from this one.

In the same way, in the pattern for base, we pick the girth as 14-13-a-b-c-d, etc., to s and set it on a line as 14-s, which is on the extended line r-Y of plan.

From each point as 14-13-a-b-c, etc., we draw stretchout lines and then from each intersection in the miter, D-Y, we bring over lines to intersect those in stretchout of similar number.

This gives the intersections as s'-r'-t'-o', etc., through which a line is drawn and makes the miter cut for pattern.

Now if an octagon vase is desired, the treatment is similar, only in the quarter plan for base we set the octagon plan instead of the hexagon as r-E-F.

Then E-Y is the miter line for the base while B-X is the miter line for the octagon in the top half of plan.

As these miter lines cross those lines which establish the hexagon miter line, we only need to pick out these intersections and extend them over into the patterns, which gives the miter cut shown by the dotted positions in pattern.

To lay out the inside pan shown by the dotted lines of elevation, which is for holding the earth and preventing water to seep into the moulded members of the vase, which may rust it; make the drawing as at M-N.

The sides are laid out by picking these lengths and setting them on lines as M'-N', also M'' and N''.

The former is for a hexagon vase and the latter is for an octagon vase.

The width of the top and bottom lines are picked from the quarter plan of top, using the lines shown by the heavy dots in miter line.

The bottom is not shown but would take on the shape of either an octagon or a hexagon as desired and made equal in size to what the elevation would require.

Laps for seaming and riveting

various members, also soldering, must be allowed extra.

Springfield Sheet Metal Men Hold Group Meeting.

The second annual group meeting of the Springfield Sheet Metal Contractors' Association was held Tuesday evening, February 21st, in the St. Nicholas hotel, Springfield, Illinois.

Members from the Alton, Bloomington, Canton, Normal and Peoria locals were in attendance.

Four of the officers of the Sheet Metal Contractors' Association of Illinois were present, namely, J. C. Neuman of Springfield, president of the state organization; G. J. George of Springfield, secretary; Harry Butler of Bloomington, and Charles N. Louis of Peoria, directors.

The Jobbers' and Salesmen's

Auxiliary to the Sheet Metal Contractors' Association of Illinois, was represented at the meeting by its officers as follows: President Peter Johnson of Peoria; vice-president, L. A. Denoyer of Chicago; secretary, Frank I. Eynatten, of Peoria; and Oliver Engledew of Chicago, a director of the Auxiliary.

After the banquet subjects for discussion were shown on wall cards.

"With a question staring him in the face," says Secretary J. A. Newman in reporting the meeting, "each member had to talk; and the chairman had to use the stop-watch and gavel often.

"It was so interesting that long after the chairman had adjourned the meeting, the members were holding disputations in the St. Nicholas hotel lobby."

In Automobile Radiator Repairing the Work of Soldering Must Be Done with Great Care.

Thorough Scraping, Filing, and Acid-cleaning of the Laps and Seams Are Essential to Make Solder Hold Metals Together.

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by
E. E. Zideck, New York City.

TWENTY-FIRST ARTICLE.

THE metal of which a radiator is constructed will, in contact with heat, water and air, either rust or oxidize.

Iron will rust. Copper will oxidize more than brass. Brass more than solder.

Rusty or oxidized metal can not be soldered while in that condition. It must be *cleaned*.

The water inlet and outlet of a radiator, usually cast iron, will be rusty on the surface that broke apart from the tank. This surface must be cleaned of rust, filed and re-tinned before it is ready to be soldered back to the tank.

Copper, brass and solder must be cleaned of oxides and show their respective metal color before solder will stick to them to hold.

All parts of the radiator which are broken apart and which are to

be used again, soldering them back into their respective position, must be cleaned in the manner indicated, heated, re-tinned, and then soldered.

If treated in this manner they will hold. If just filed upon the edges for solder to stick to them, the soldering will not hold long enough to pay for the job.

Any break in the radiator, except it is repaired at once, will cause the metal surfaces which are there joined to rust or oxidize rapidly.

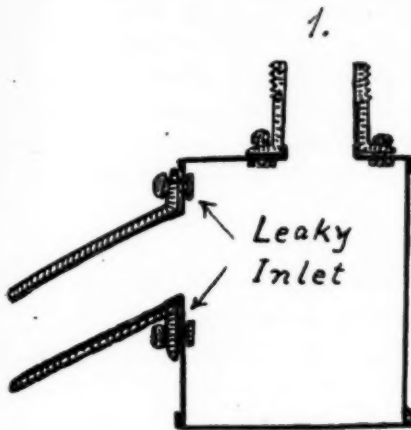
A leak will be partly filled with dirt from the water. A break in non-leakable parts will be filled with dust and other foreign substance.

In order to re-solder these breaks and leaks rightly, the dirt and substance not belonging there must be removed from between the metals to be joined by solder.

The seams and the laps of the

metals must not only be free of rust and oxide, but also of any substance liable to collect between the metals broken apart.

Soldering means to make metal



pieces stick together; to join metal by solder.

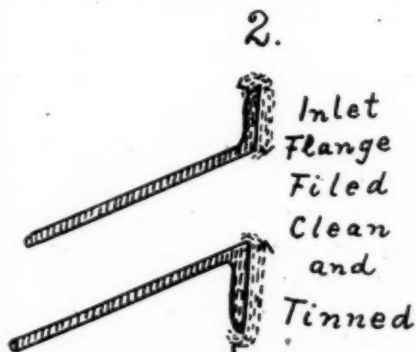
The larger the lap by which solder holds together the two pieces of metal, the stronger will be its hold.

Soldered joints, therefore, all have a lap. A seam is a multiple lap, partly holding even before it is soldered.

These laps, however, are there for the single purpose of allowing solder to cover a wide surface of the joining metal and thus to hold by a larger surface.

Therefore, the entire surface of the respective lap must be clean if solder is to have the hold it was intended to have upon the joined metal.

In radiator repairing, the above is very important. The radiator itself is a thing experiencing constant strain on all its joined parts.



A mere surface soldering will not do in radiator repairing. The man who attempts to do work that way can not continue in business.

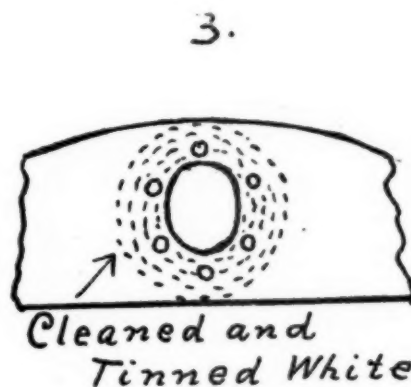
And because soldering will do no

good on *unclean* metal or, on edges only, the scraping, filing, acid-cleaning of laps and seams in the radiator is by far the greater part of the work than is the soldering.

With well cleaned metals to solder, soldering itself consumes a mere trifle of time.

Radiator repairing would be an easy job were it not for the fact that the soldered joints are many; that they can not be easily approached for cleaning; and that the core, especially the continuous fin tubular and the small air passage cellular cores, if leaking within or inside the air passage that can not be reached for cleaning, require much patient work to make them tight.

Once the metal that leaks is cleaned, solder sticks to it readily and it is not much of a job to solder the leak up.



In the accompanying diagrams are shown the places in the tanks and their parts which leak most frequently.

In No. 1, the inlet of the upper tank is shown leaking.

If the inlet be of iron, the leak will not be stopped permanently by mere scraping the metal and soldering it.

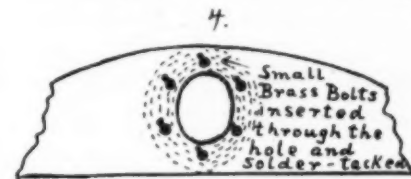
The iron inlet (or outlet) must be taken off entirely. If riveted on, a cold chisel can be used and the rivets cut through.

With the inlet off, it should be filed clean upon the joining surface. The iron should show its white color and no rusty places, dots, etc., should remain upon it.

Rivet holes should be cleaned similarly. The part should be heated above the soldering furnace or

torch, dripping cut acid upon the cleaned surface while it is being heated.

Once it is hot enough for solder to melt upon it, the soldering iron will distribute the solder over it and the part will be tinned easily.



Rivet holes should be tinned thoroughly.

Diagram No. 2 shows the iron inlet filed, cleaned, and white tinned with solder.

Diagram 3 shows the tank part to which the inlet fastens.

The whole surface of the metal which is covered by the inlet flange should be cleaned and white tinned.

No pre-heating except by soldering iron is required, but the soldering coppers must be of good size and well heated. Rivet holes in the tank must be tinned along with the surface of the metal.

Diagram 4 shows small brass bolts inserted into the rivet holes in the tank metal.

These bolts are inserted from the inside of the tank, through the hole, held tight with pliers or a handy tool, and soldered.

The cleaned and white tinned inlet is put over the cleaned and white tinned tank metal, the rivet holes fitting over the brass bolts.

Nuts are screwed on and tightened to hold the inlet to the tank.

Then the inlet flange, the bolts, nuts, etc., are soldered. Very hot soldering coppers must be used.

Cut acid is applied richly so it flows inside the lap. Coppers are held upon the inlet flange and upon the bolts until the solder remaining upon them from tinning shows melting.

Then more solder is added to cover up the joint and fill a possible hole. Bolt nuts are covered up with solder.

The job, done in this manner, takes a few hours to do it in, but then, the iron part will be holding

and the joint will be tight for the rest of the life of the radiator.

A job as this can be guaranteed and the car owner will gladly pay a trifle more and be assured that there will be no more trouble in that portion of the radiator.

(To Be Continued).

Michigan Sheet Metal Men Get Ready for Summer Outing.

One of the reasons why the sheet metal folk of Michigan are always so successful in their celebrations and meetings is that they make their preparations far enough in advance to be sure of covering every possible contingency.

Already the Michigan Sheet Metal Contractors' Association and the Jobbers' and Salesmen's Auxiliary of that State are getting things in shape for the Summer Outing.

A postal card is being sent out to all members of both organizations with a form to be filled in as follows:

"We are in the proposed boat trip for the Summer Outing and..... members from our firm will attend together with.....members of their families.

Firm Name
St. Address.....
City"

The outing will be taken on a palatial lake steamer leaving Muskegon, Michigan, Thursday night, June 22d, and arriving in Chicago the next morning.

A sight-seeing trip in luxurious automobiles will be taken to the chief places of interest in Chicago. Friday evening the boat will leave for Milwaukee, Wisconsin, arriving there the next morning. The party will take a trip to the places of interest in Milwaukee, go through one of the big rolling mills, and indulge in baseball games and other entertainments in the afternoon.

Frank E. Ederle, the dynamic and smiling Secretary of the Michigan Sheet Metal Contractors' Association, is leaving no effort untried to help his fellow members of the committee in charge, namely, Harry Rhodes and Thomas I. Peacock, make the affair a phenomenal success.

Indicates How to Arrive at Success.

Worthy of wide publication is the following article in the "Monthly Bulletin" of the Roofing, Metal and Heating Engineers of Philadelphia, Pennsylvania:

You will surely arrive at success if you—

Believe this: The best opportunities are of the home-made variety.

Deserve these: Respect and love.

Keep these: Your word, your temper, and your friends.

Make this: A life, while making a living. Live one day at a time.

Practice this: Holding your tongue between your teeth so it won't cut your throat.

Heed this: "Prepare."

Adopt this: Think before you act—but don't think too long.

Get used to this: Turning up with a smile—and smiling even when you are turned down.

Finish this: Every job you tackle.

Lend this: A hand to the other fellow as you go along.

Turn to this: Your wife's judgment when in doubt.

Act on this: It is cheaper to keep well than to get well.

Execute this: There is no such thing as a "little thing" in business.

Learn this: Something new and useful every day.

Remember this: Character is what a man is in the dark.

Forget these: Past failures, past successes, slights, spites, and all else that robs you of serenity and impedes your progress.

Enjoy these: A good laugh daily; the sunny side of every situation; freedom from worry and flurry.

Realize this: Today is the tomorrow you worried about yesterday.

Bank on this: If you aim straight, shoot straight, and pull the trigger often enough, you can not help hitting the mark.

Don't make these: Excuses.

Some other fellow is pulling the trigger while you're hunting up a good alibi. Instead of apologizing or complaining, pick out your target, and keep firing.

Eschew this: The recoil in the hammer of the chronic knocker.

Chew this: "Success" is spelled with seven letters; of the seven only one is found in "fame," and one in "money;" but three are found in "happiness."

Solomon Speco Is a New and Smiling Salesman.

From the exclusive society matron of Thingamajig-on-the-Hudson to the scrubwoman living in a dark rear basement flat, everyone knows the "Gold Dust Twins."

People who couldn't write an essay if the saving of their hides depended on it and glib novelists who can reel off ten or fifteen thousand words a day on their typewriters, can tell you just what "Gold Dust Twins" will do.

The ebony pair sell more pack-



"Speco Sol" the New Salesman.

ages of the cleansing powder than all the words that have ever been written about the product.

You can always tell a thing in pictures and make it understood better than you can in words.

And so the very clever chemists and business men who make up the Special Chemicals Company, 397 Central Avenue, Highland Park, Illinois, have adopted the little man, "Solomon Speco," in advertisements.

Nearly everyone pronounces Speco as "Speck-o."

That is why the smiling little man, Solomon Speco—Speco Sol for short—wears "specs" and a

speckled shirt. Speco Sol was named for Speco Solid Sal Ammoniac for tinning and cleaning soldering irons.

The hardware dealer who will set Speco Sol to do the talking for him will be agreeably surprised at the results.

Just as "Gold Dust Twins" have popularized the product from which they take their name, so Speco Sol with his speckled shirt and "specs"

will be the means of multiplying sales for the dealer.

This is not written as an advertisement.

It's just a suggestion of a good way to increase business.

In fact, it might be applied to all manufacturers' helps.

It's just one case of many where the dealer can enlarge his volume of sales by making use of the agen-

cies available through just such publicity as "Speco Sol."

Put him out in front where people can see him.

It won't take long for mechanics to get acquainted with "Speco Sol" and, in consequence, they will begin to ask for "Speco Sol" just as naturally as people call for "Gold Dust Twins" when they need the product bearing that name.

It's a Shame to Let One Man in a Town Prevent the Formation of a Good Local Sheet Metal Association.

That Is Exactly What Bill Blower Was Doing With His Talkativeness and His Unsound Advice on Trade Matters.

Written Especially for AMERICAN ARTISAN AND HARDWARE RECORD by J. C. Greenberg, Cleveland, Ohio.

BILL BLOWER was in fine spirits when I called on him. I wanted to get an idea as to why there was no Sheet Metal Association in his town.

I found Bill ready and willing to talk about the association. He always was ready and willing to talk about the association. He always was ready and willing to talk. Talk was his middle name.

No wonder his name is Bill Blower. He would blow off at every opportunity. After I had broached the subject to Bill, he began to spout something like this:

"There is no use in even trying to form an association in this burg," Bill assured me. "These tanners in this town will never prosper. They won't take any advice from anyone, and when a set of men will not take advice they are pretty low down."

"Who is the adviser, Bill?" I asked casually, "Who is this advice giver to whom the tanners in this town will not listen?"

"Well, I for one for instance," Bill said with much ego. "I have tried many times to advise them to follow certain plans which would be of benefit to all of us, but do you think they would listen to me? I guess not."

"Just what was the nature of your advice, Bill?" I asked him.

"Oh, on different things," Bill re-

plied. "Take for example the price question. They will cut the price all to pieces, and expect to get a profit. If they would listen to me, there would not be a low bid given. Money is what we want."

"What else did you give along the line of advice?" I asked.

"Then," Bill went on, "There was that cut in wages. I advised to cut twenty per cent instead of ten. These journeymen never did a good day's work anyway, so we may as well not pay them as much. Little work, little pay."

Bill was getting all swelled on himself. He had an idea that he was a real smart business man. But I let him go on. I did not interrupt him at all. I simply wanted to see what kind of advice he was peddling.

"Another thing," Bill spouted, "There is the association fees. I advised that it should be at least one hundred dollars. Keep the dubs out. That is the proper caper. If the fees are too high for some of them, they will have to hustle to join, and it will induce them to get prices for jobs."

"Anything else, Bill?" I asked getting warm under the collar.

"Oh there are a thousand things I could tell you," Bill replied, "but life is too short to bother. Count me out of any kind of an associa-

tion with the puddin' heads in this town."

This last remark set the whole works off. I just looked at Bill, and said:

"Bill, you are one of these smart fellows that always give advice, but who is not man enough to take it. You are as wrong as you can be, and if you have an ounce of sense, you will take a little from me right now. Just keep still, and I will show you the true light of Association."

"There's no use of it," Bill smiled with self-satisfaction. "I have pretty sound ideas about this matter, and I do not need any advice along this line."

"I'll grant you this Bill," I replied softly, "but as a gentleman, you will listen, and as a friend, you will take a little friendly advice."

Bill said nothing. He just waited for me to proceed; and I did.

"Bill," I said, "You think that your advice is sound. Let us take up your first idea concerning price. Do you think that price regulation is good, and legal? Do you think that putting a certain commodity at a high price will cure poverty? Let me tell you, Bill, that price is all right, if the man behind the price is all right. Low prices are the result of a lack of business knowl-

edge which association is trying to cure through education.

"Teach a man the right methods, and he will adopt them," I continued. "But criticize him, and he will not trust you. Price is always regulated by service. Teach the gospel of service, and the price will be all right. You and your price regulation fallacy are both wrong. You were the first man to kick when bread was regulated to fifteen cents a loaf, and sugar to forty cents a pound. What are you talking about? No wonder they will not take your advice. Regulation and fixing prices is not advice; it is illegal bull."

"Oh, I don't know about that," was all Bill said.

"Now, then, there is your wage-cutting fallacy. Where is there any advantage in cutting wages? It merely means that if you pay less money for labor, you will get less labor. You can not get anything for nothing. Just why should the sheet metal men in this town listen to your bull about wage-cutting when it is not logical? Why don't you advise them to install a school for journeymen tanners where they can learn to do better and more efficient work and give better service for better wages? You and your bull actually stop progress, and withhold opportunity from the journeyman. You with your advice giving! You will not, or can not advise for constructive progress. You merely call your hot air advice, that is all."

Not a word from Bill. He was letting it soak in, I guess.

"Then there is your silly idea about making the association dues so high that a fellow who is eligible can not come in," I went on. "Just see what fool ideas you have that you only think is advice. Why make it so hard to come in? Just why keep the little boss out? Why not be real sensible and make the association so easy to come in that all will join, and make it such a good association that it will be really very hard to stay out? Make the association so good, so educating, so constructive, that they simply

can not afford to stay out. Association really means the clearing house for ideas. It really means that a man can learn a lot and profit accordingly. Instead of these good ideas, you shoot your mouth off about advice which is absolutely insane. You are exactly opposite to the true meaning of association. Make a thing worth while or keep still. Your ideas and advices are all bunk."

"I can't agree with you," Bill protested. "You believe in these goody, goody things, while I believe in dollars and cents. I have no sentiment about business that will make me a softy. Profit and plenty of it is my motto."

"Sure it is," I replied. "Dollars and cents has dulled your good sense if you have ever had any. It is not sentiment at all. It is the education of our fellow craftsman. It is the making of decent competition, it is the spirit of service that association is after. We are associated to learn business religion, not fool advice. Bill, such men as you are have never done any good at all. Better get on the wagon and take a little advice, and give less of it."

"Still," Bill insisted, "I do honestly believe that if the price of association fees were high, we would have a better class of members."

"You are wrong, Bill," I answered. "Association is merely a school where a man can learn business, and knowledge should be cheap. Suppose the public school should compel you to pay one hundred dollars a year to educate each one of your five children, what would you say? If you are as smart as you think you are, and are willing to give good advice, please remember that you must first get that good advice. You can not give what you never had, Bill. Please remember that the man who is always spouting advice and never asks for it is a lame duck, and is a hindrance to progress. Your pet ideas are not worth their salt, and you know it, but you are too stuck on yourself to admit it. Brace up

and join the association and be a friend of your fellowman."

Dear reader, are you one of those Bill Blowers? Are you always shooting advice that is not practical? Just look at yourself as others see you, and ask yourself if you are the right kind of a man to give advice.

It may be that you really need it very badly, and are too self-interested to ask for it. Advice is all right, if it gives a fellow man a remedy.

If your advice has no remedy, it becomes criticism, and is harmful. Just stop and think about this.

Give advice and correct an evil.

Give criticism, and stop progress.

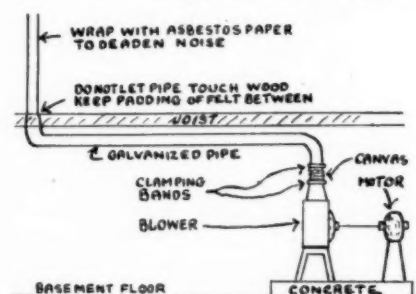
Which are you doing? Any fool can criticize but it takes a wise man to give a remedy. What class are you in?

Offers Solution of Pipe Organ Blower Problem.

TO AMERICAN ARTISAN AND HARDWARE RECORD:

In response to the request of Louis I. Drackert in your issue of February 4th, page 29, for a solution of the problem of silencing a noisy pipe organ blower, I submit the following:

I have recently installed a blow pipe on a large organ in our city



where they erected the fan or blower on a concrete foundation.

I started from the blower with a canvas section between the collar and galvanized pipe, so that the vibration could not follow the pipe, as shown in the accompanying sketch.

Yours truly,

JOHN A. PONTIUS.

Geneva, New York, February 28, 1922.

Reviews the Copper Situation.

In an address delivered before the Columbia University Post of the American Legion, J. Parke Channing, vice-president of the Miami Copper Company, reviews the copper situation as follows:

Because, during the war, the mines in the United States increased their production from approximately one billion pounds to two billion pounds, the claim has lately been made that we are over-equipped for the production of copper.

While there may be some truth in this I believe the statement is not sound. During the war this tremendous production of copper was obtained by mining the richer portions of the ore bodies and also by forcing the concentrators beyond their economic capacity.

I believe that the capacity of the United States today for normal production is about equal to what should be the normal consumption in the United States, plus its exports.

There is before us a great era of development of hydro-electric power both in the United States and in Europe.

France and Italy are both developing their power in the Alps. It is a vital question with Italy for she has no coal.

Japan is going in for the development of electric power and its distribution, and in the United States the recent Congressional action permitting the development of water power, under the supervision of the Federal Power Commission, has resulted in the application for rights aggregating many millions of horsepower.

As a whole, taking into consideration the limited supplies of copper in the world and the enormous potential uses for it, I feel optimistic on the situation.

We must realize that the world is one industrial unit and that until this unity is restored production and trade will not reach its full fruition.

Opens a General Sheet Metal Works.

A general sheet metal works has been opened at 139 West Broadway, Waukesha, Wisconsin, by J. W. Birthrong, for twenty-five years manager of the sheet metal department of the Perkins and other hardware concerns here.

The business is to be known as the J. W. Birthrong Sheet Metal Company.

Notes and Queries

Rutherford's Gumbo Paste Flour.

From Ira Lock, 113 South Fourth Street, Beatrice, Nebraska.

Please advise me who manufactures Rutherford's Gumbo Paste Flour.

Ans.—William Rutherford, 2433 Leland Avenue, Chicago, Illinois.

Oven Door Spring for Laurel Range.

From John Miller, St. Nazianz, Wisconsin.

Where can I buy an oven door spring for a 920 M Laurel Range?

Ans.—You can secure it from the manufacturers, Art Stove Company, Russell and Milwaukee, Detroit, Michigan.

Cole Copper Cable Lightning Rod.

From George J. Weymuth, Cole Camp, Missouri.

Will you please give me the name and address of the firm that manufactures what is known as the Cole Copper Cable Lightning Rod?

Ans.—It was formerly manufactured by the Ajax Conductor and Manufacturing Company of Chicago, now out of business.

Dover Wire Eaves Trough Hanger.

From M. A. Freeman, Poseyville, Indiana.

Who manufactures the Dover wire eaves trough hanger?

Ans.—Reeves Manufacturing Company, Dover, Ohio.

Brass Sheets and Bolts.

From Opie M. Hocker, El Paso, Illinois.

Where can I buy brass sheets and small brass bolts?

Ans.—American Brass Company, Waterbury, Connecticut; Merchant and Evans Company 347 North Sheldon Street, Chicago, Illinois; Dallas Brass and Copper Company, 820 Orleans Street, Chicago, Illinois; Detroit Copper and Brass

Rolling Mills, Clark Avenue near Wabash Railroad, Detroit, Michigan. 2.—American Brass Company, Waterbury, Connecticut; Reading Hardware Company, Reading, Pennsylvania; Rockford Bolt Company, Rockford, Illinois; Reed and Prince Manufacturing Company, Worcester, Massachusetts.

Slate Roofing.

From Rockford Heating and Metal Company, 519 West State Street, Rockford, Illinois.

Will you kindly give me the names of firms that manufacture roofing slate?

Ans.—Auld and Conger Company, 942 Prospect Avenue, Cleveland, Ohio; Beckman-Dawson Roofing Company, 19 South La Salle Street, Chicago, Illinois; Farwell Cornice Company, 3935 Southport Avenue, Chicago, Illinois; Kasch Roofing Company, Akron, Ohio; Valley Cornice and Slate Company, Limited, Saginaw, Michigan.

Window Ventilators.

From Mohr-Jones Hardware Company, 315 Sixth Street, Racine, Wisconsin.

Please advise me who manufactures a window ventilating fan that is set in the window by merely removing one pane of glass and which acts through the circulation of the air passing through it.

Ans.—Glass Window Ventilator Works, 333 South Dearborn Street, Chicago, Illinois; Automatic Ventilator Company, 15 East Van Buren Street, Chicago, Illinois, and 2 Rec- tor Street, New York City.

Metal Boat Patterns.

From Henry G. Gelzer, Marceline, Missouri.

Where can I get metal boat patterns?

Ans.—H. F. Thompson Boat and Pattern Works, Decorah, Iowa.

Nokol Oil Burner.

From H. Luedeking, 325 East Empire Street, Freeport, Illinois.

Can you tell me who makes the Nokol oil burner for furnaces?

Ans.—Nokol Company of Illinois, 215 North Michigan Avenue, Chicago, Illinois.

Metal Boat Patterns.

From Oleson Hardware Company, Elkhorn, Wisconsin.

Please give me the name of some firm where I can buy metal boat patterns.

Ans.—H. F. Thompson Boat and Pattern Works, Decorah, Iowa.

Review of Conditions in the Metal Markets.

General Situation in the Steel Industry. Report of Prices and Tendencies in Sheet Metals, Pig Iron, etc.

DEMAND FOR COPPER SLOWLY INCREASES.

Demand for copper today is improving rather than otherwise, but the increase is not sufficient to cause any substantial advance in prices.

As a whole, wire drawers, brass mills and foundries and copper rolling mills are operating about 50 per cent of capacity.

Some of them are doing better. The American Brass Company is reported to be operating about 50 per cent.

One or two other mills in the Connecticut Valley are running five days a week at close to 75 per cent of capacity.

In the main the outlook is more encouraging than for several months.

Sales of copper in February are estimated between 60,000,000 and 70,000,000 pounds.

Since January 1st sales are probably in the neighborhood of 130,000,000 pounds, that is, so far as the largest producers are concerned.

Including sales made in the outside market the total sales since the first of the year have probably been in the neighborhood of 140,000,000 pounds, or at an average rate of 70,000,000 pounds a month.

This compares with 100,000,000 to 110,000,000 pounds in December, 160,000,000 pounds in November and 140,000,000 pounds in October.

Statistically considered, further progress has been made in the last month.

Deliveries into domestic consumption were probably at least 70,000,000 pounds and exports are estimated at 40,000,000 pounds, making total deliveries of 110,000,000 pounds.

Assuming that refined production was 85,000,000 pounds, there was a further reduction of about 25,000,000 pounds in surplus stocks.

By next Summer it is estimated that output of United States smelters will have been increased to about 70,000,000 pounds a month and with imports of 30,000,000 pounds, about 100,000,000 pounds a month of refined copper will be available for domestic and foreign consumption.

By that time stocks of refined copper held for domestic consumption alone will have been exhausted.

Stocks of copper held for export have been reduced below 270,000,000 pounds and will have been further reduced when the increased domestic output is available.

In the meantime it is expected that consumption on domestic and foreign account will have increased.

Chicago prices for sheet copper, mill base, declined $\frac{1}{2}$ cent during the week.

Tin.

A sharp upward movement in prices featured the tin market at the beginning of the week.

Prices increased, ranging from $\frac{5}{8}$ cent to $1\frac{3}{4}$ cents per pound.

Chicago quotations on tin declined $\frac{1}{2}$ cent during the week.

Solder.

A decrease of 50 cents per hundred pounds took place in Chicago solder prices.

The quotations now in effect are as follows:

Warranted, 50-50, per 100 pounds, \$20.50; Commercial, 45-55, per 100 pounds, \$19.00, and Plumbers', per 100 pounds, \$17.75.

Lead.

Lead consumption in the Chicago district appears to be very good and yet it has not been reflected in the way of quantity demand.

A carload inquiry is now quite unusual and so far as the trade itself is concerned there has been little activity.

With the new rates, which is un-

derstood will be in effect March 7th, there may be some revival of interest.

One of the features of the situation has been the purchase of quite a lot of scrap lead which has naturally kept some of the smelter buyers out of the market.

The general situation has the same character of statistical soundness that has been reported for some time past.

Zinc.

A greater interest is manifested in zinc futures which are nominally 5 points per month higher, but it is difficult to obtain quotations beyond May.

Metal for shipment from west of the Mississippi continues difficult to acquire even at the advance and in consequence there is apparently some accumulation of orders for the Chicago district.

The movement so far has the appearance of a gradual improvement from the recent stagnation rather than a decided change to general activity.

Sheets.

The sheet market is firmer in both price and volume. Evidence of price shading is lacking.

Leading independent makers assert they are unable to make sheets on 50 per cent volume even at the present prices and that consequently there can be no price cutting expected.

One maker insists that capacity operations will be required for sheet makers to earn even a small profit on present prices.

The proportion of sheet mills in operation is nearly if not quite 60 per cent of the total, which, of course, means a trifle over 60 per cent of what would be a full normal production, since all the mills could not be expected to be in operation at any one time, on account of physical limitations.

An increase in demand for black and galvanized sheets from factories making material for the building trades, such as metal lathing, ceiling, eaves trough and conductor pipe, etc., is noted and demand along this line may be regarded as restored to normal if indeed it is not somewhat above normal.

The country is in the midst of a period of decided activity in dwelling house construction, while some theorists continue to predict that this is going to come at some time in the future.

There has been a slight increase in seasonal activity in sheets for stoves and stovepipe, factories getting ready for the Fall distribution. Prospects are that the season will be substantially normal.

Tin Plate.

Reports from Pittsburgh indicate that at the present time \$4.60 is the actual minimum of the tin plate market and that that figure applies to purchases of 100,000 base boxes or more by preferential customers who always are quoted a figure below the regular market price.

Another figure recently noted is \$4.65 and some orders for slightly under 100,000 base boxes have been taken at that figure.

On production tin plate, however, the general market is considered to be \$4.75 as confirmed by the announcement of February 20 from the American Sheet & Tin Plate Company that this base price would apply upon orders from jobbers for shipment during the second quarter.

Old Metals

Wholesale quotations in the Chicago district which should be considered as nominal are as follows: Old steel axles, \$13.50 to \$14.00; old iron axles, \$18.50 to \$19.00; steel springs, \$13.75 to \$14.25; No. 1 wrought iron, \$12.50 to \$13.00; No. 1 cast, \$12.00 to \$12.50 all per net tons. Prices for non-ferrous metals are quoted as follows, per pound: Light copper, 7¼ cents; light brass, 4 cents; lead, 3¼ cents; zinc, 2 cents; and cast aluminum, 9¼ cents.

Pig Iron.

It is declared that pig iron makers are still taking a loss on almost every ton of iron they sell.

A weighted average of pig iron prices today stands only about 14 or 15 per cent above the 10-year pre-war average, and furnace interests still have the same adverse factors to contend with as do the steel masters.

There is serious doubt as to whether the market actually advanced, as no sales of iron have as yet been made at the higher quota-

tions, which are confined to No. 2 foundry and are \$20 furnace, whereas some of these same interests have since released tonnages at the \$18 and \$18.50 levels.

Bessemer iron has sold off half a dollar to \$19 furnace during the week.

Those forecasting the trend of the pig iron market are divided into two diametrically opposed groups—those who think prices will advance from now on and those who maintain that deflation has not yet run its course.

The Increased Demand for Steel Products Is Reflected in Higher Rate of Mill Operation.

Prices, However, Continue to Decline, Though There Are Signs of a Firming Tendency Which Is Likely Soon to Materialize.

COMPARED with an average for December of only 38 per cent, the ingot production of the country is up to 55 per cent of capacity.

The increase in the operating rate of the steel mills is due to an improvement in the demand for steel products.

This is the best rate attained in more than a year as January, 1921, showed an average of 53 per cent. However, the spread between the operating rates of the leading interests and the independents has narrowed materially.

In January, 1921, the Steel Corporation was turning out steel at about 75 per cent of capacity, and the independents were doing approximately 35 per cent whereas today the difference is less than 10 per cent.

Most of the companies are not making their overhead at present prices, but if an operating rate of 60 per cent can be attained most of them will be showing a profit.

It will be remembered that last August the output of the steel mills had dropped to below 20 per cent of capacity so that the present rate shows a gain of 175 per cent since that time.

There is an increased demand for steel pipe, but cast iron pipe orders featured the market during the week principally from municipalities.

Prices continue to decline, although there are signs of a firming tendency which is likely soon to materialize.

At the present bars, shapes and plates are selling at 1.40 cents Pittsburgh, which compares with a 10-year pre-war average of 1.40 cents for bars and 1.50 cents for plates and shapes, while the record low of recent years, in 1914, was a cent for all three, which held for a very short time only.

Wages today range from 25 to 30 cents an hour, as against 19 cents before the war, and freight rates are still about 100 per cent higher, to be applied on from five to seven cars of raw material to make a car of steel.

Last week the composite price for steel products was 2.005, as against 2.058 cents a pound for the previous week.

On the other hand, the advance of quotations by several furnaces in the Chicago district increased the pig iron composite, which stands today at \$18.75, as against \$18.65 a ton last week.

Current Hardware and Metal Prices.

AMERICAN ARTISAN AND HARDWARE RECORD is the only publication containing Western Hardware and Metal prices corrected weekly.

METALS

PIG IRON.

Chicago Foundry	20 00
Southern Fdy. No. 2, 21 66 to 22 16	
Lake Sup. Charcoal..26 00 to 30 50	
Malleable	20 00

FIRST QUALITY BRIGHT TIN PLATES.

	Per Box
IC 14x20 112 sheets	\$ 9 65
IX 14x20	11 05
IXX 14x20	12 30
IXXX 14x20	13 65
IXXXX 14x20	15 05
IC 20x28	19 30
IX 20x28	22 10
IXX 20x28	24 60
IXXX 20x28	27 30
IXXXX 20x28	30 10

COKE PLATES.

Cokes, 180 lbs....	20x28 \$11 80
Cokes, 200 lbs....	20x28 12 00
Cokes, 214 lbs....	IC 20x28 13 35
Cokes, 270 lbs....	IX 20x28 14 10

BLUE ANNEALED SHEETS.

Base	per 100 lbs. \$3 38
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ONE PASS COLD ROLLED BLACK.

No. 18-20	per 100 lbs. \$3 95
No. 22-24	per 100 lbs. 4 00
No. 26	per 100 lbs. 4 05
No. 27	per 100 lbs. 4 10
No. 28	per 100 lbs. 4 15
No. 29	per 100 lbs. 4 25

GALVANIZED.

No. 16	per 100 lbs. \$4 40
No. 18-20	per 100 lbs. 4 55
No. 22-24	per 100 lbs. 4 70
No. 26	per 100 lbs. 4 85
No. 27	per 100 lbs. 5 00
No. 28	per 100 lbs. 5 15
No. 30	per 100 lbs. 5 65

BAR SOLDER.

Warranted.	
50-50	per 100 lbs. \$20 50
Commercial.	
45-55	per 100 lbs. 19 00
Plumbers	per 100 lbs. 17 75

ZINC.

In Slabs	5 05
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SHEET ZINC.

Cask lots, stock	9c
Less than cask lots	9 1/2 c

COPPER.

Copper Sheet, mill base	\$30 20
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LEAD.

American Pig	\$4 85
Bar	5 60

Sheet.

Full coils	per 100 lbs. 7 25
Cut coils	per 100 lbs. 7 50

TIN.

Pig tin	32 1/2
Bar tin	34 1/2

HARDWARE, SHEET METAL SUPPLIES, WARM AIR HEATER FITTINGS AND ACCESSORIES.

ADZES.

Coopers'.	
Barton's	Net
White's	Net

AMMUNITION.

Shells, Loaded, Peters.	
Loaded with Black Powder 18%	
Loaded with Smokeless Powder	18%
Winchester.	
Smokeless Repeater	
Grade	20 & 4%
Smokeless Leader	
Grade	20 & 4%
Black Powder	20 & 4%
U. M. C.	
Nitro Club	20 & 4%
Arrow	20 & 4%
New Club	20 & 4%

Gun Wads—per 1000.	
Winchester 7-8 gauge 10&7 1/4	
" 9-10 gauge 10&7 1/4	
" 11-28 gauge 10&7 1/4	

ASBESTOS.

Paper up to 1/16	10c per lb.
Millboard 3/32 to 1/4	10 1/2 c per lb.
Corrugated Paper (250 sq. ft.)	\$6.50 per 100 lbs.
Rollboard	11c per lb.

AUGERS.

Boring Machine	40 @ 40&10%
Carpenter's Nut	50%
Hollow.	
Bonney's	per doz. \$30 00
Post Hole.	
Iwan's Post Hole and Well	30 and 5%
Vaughan's, 4 to 9 in., without handles	per doz. \$14 00

AWLS.

Brad.	
No. 3 Handled	per doz. \$0 65
No. 1050 Handled	" 1 40
Patent ast'd'd, 1 to 4	" 35

HARNESS.

Common	per doz. \$1 05
Patent	" 1 00

Peg.

Shouldered	" 1 60
Patented	" 75

Scratch.

No. 18, socket	
Handled	per doz. \$2 50
No. 244 Goodell-Pratt, list less	35-40%
No. 7 Stanley	per doz. \$2 25

AXES.

First Quality, Single Bitted (unhandled), 3 to 4 lb. per doz.	\$14 50
Good Quality, Single Bitted, same weight, per doz.	13 00

BALANCES, SPRING.

Universal.	
Sight Spring	List less 25%
Straight	List less 25%

BARB, WRECKING.

V. & B. No. 12	\$0 45
V. & B. No. 24	0 75
V. & B. No. 324	0 80
V. & B. No. 30	0 85
V. & B. No. 330	0 90

BEVELS, TEE.

Stanley's Rosewood handle, new list	
Stanley iron handle	Net

BINDING CLOTH.

Zinc	55%
Brass	40%
Brass, plated	60%

BITS.

Auger.	
Jennings Pattern	Net
Ford Car	25% off
Ford's Ship	25% off
Irwin	35%
Russell Jennings	less 10%
Clark's Expansive	33 1/2%
Center	10%

Countersink.

American Snailhead	" 1 75
" Rose	" 2 00
" Flat	" 1 40

Dowel.

Russel Jennings	plus 20%
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Gimlet.

Standard Double Cut Gross	\$3 40
Nail Metal Single Cut	Gross \$4 00—\$5 00

Reamer.

Standard Square	Doz. \$2 50
American Octagon	" 2 50

Screw Driver.

No. 1 Common	Each 18c
No. 26 Stanley	Each 70c

BLADES, SAW.

Wood.	
Atkins 30-in.	
Nos.	6 40 36
	\$8 90 \$9 45 \$5 40
Diston 30-in.	
Nos.	6 66 36
	\$9 45 \$10 05 \$9 45

BLOCKS.

Wooden	20%
Patent	30%

BOARDS.

Stove.	Per doz.
26x26, wood lined	\$14 45
28x28, " "	16 95
30x30, " "	19 00
26x26, paper lined	8 15
28x28, " "	9 10
30x30, " "	10 80

Wash.

No. 760, Banner Globe (single)	per doz. \$5 25
No. 652, Banner Globe (single)	per doz. 6 75
No. 801, Brass King, per doz.	8 25
No. 860, Single—Plain Pump	6 25

BOLTS.

Carriage, Machine, etc.	
Carriage, cut thread, 3/16 and sizes smaller and shorter	.60 & 10%
Carriage sizes, larger and longer than 3/16	.60%
Machine, 3/16 and sizes smaller and shorter	.65 & 10%
Machine, sizes larger and longer than 3/16	.60 & 10%
Stove	.80%

Mortise, Door.

Gem, iron	5%
Gem, bronze plated	5%

Barrel.

Cast	Net
Wrought	"
Wrought, bronzed	"

Flush.

Wrought	Net
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Spring.

Wrought	"
Wrought, heavy	"

Square.

Wrought	"
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BOXES.

Mall, No. 2	4 10
Per doz.	\$18 00 \$25 00 \$29 00

Cast Iron.

Per doz.	\$9 50
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Mitre.

Stanley's	Net Prices
Stearns, No. 2	per doz. \$48 00

BRACES, RATCHET.

Goodell-Pratt No. 408	\$4 60
" No. 410	4 80
" No. 412	5 00

V. & B. No. 444 8 in.	4 65
V. & B. No. 333 8 in.	4 30
V. & B. No. 222 8 in.	4 00
V. & B. No. 111 8 in.	3 50
V. & B. No. 11 8 in.	3 05

BURRS, RIVETING.

Copper Burrs only. 30% above list	
Tinners' Iron Burrs only	Net

BUTTS.

Steel, antique copper or dull brass finish—case lots—3 1/2 x 3 1/2	per dozen pairs \$2 75
4 x 4	3 80
Heavy Bevel steel inside sets, case lots—	
per dozen sets	7 50
Steel bit keyed front door sets, each	1 80
Wrought brass bit keyed front door sets, each	3 25
Cylinder front door sets, each	7 00

CALIPERS.

Double	
Inside and Outside	Net
Wing	"

CARRIERS.

Hay.	
Diamond, Regular	each, net
Diamond, Sling	"

CASTERS.

Standard—Ball Bearing.	50 & 10%
Bed	40%
Common Plate.	

Brass Wheel	15%
Iron and porcelain wheels, new list	50%
Philadelphia Plate, new list	50%
Martin's	40%

CATCHERS, GRASS.

No. 1608	per doz. \$12 25
No. 1658	" 14 01

CEMENT, FURNACE.

American Seal, 5 lb. cans, net	\$0 45
" 10 lb. cans	" 80
" 25 lb. cans	" 1 87
Asbestos, 5 lb. cans	" 45
Pecora, 5 lb. cans	" 45
" 10 lb. cans	" 90
" 25 lb. cans	" 1 87

CHAINS.

Breast Chains.	
With Slide	doz. pairs, \$5 50
Without Slide	" 5 06
Doubleslack	" 9 35
With Covert Snaps	" 6 38

Picture Chains.

Light brass, 3 ft. per doz.	1 25
Heavy brass, 3 ft.	" 1 75

Sash Chain.

Steel, per 100 ft.	(Morton's)
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0	\$2 50
1	3 10
2	3 60

Champion Metal.

0R	5 40
2R	5 60
1R	7 75

Champion Metal—Extra Heavy.

1H	\$9 50
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Cable Sash Chains.

Steel	List Net Plus 15%
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CHALK, CARPENTERS'.

Blue	per gro. \$2 00
Red	" 2 00
White	" 1 80
Common White School	" 0 30
Crayon	" 0 30

CHIMNEY TOPS.

In bags	per bag \$1 80
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CHECKS, DOOR.

Corbin	Net list
Russwin	Net list

CHISELS.

Cold.	
Good quality, 3/4 in., each	\$0 44
" 1/2 in., "	" 0 23

Diamond Point.

V. & B. No. 15, 3/4 in.	0 23
V. & B. No. 15, 1/2 in.	0 48

Firmer Bevelled.

Round Nose.	
V. & B. No. 65, 3/4 in.	0 33
V. & B. No. 65, 1/2 in.	0 44

Socket Firmer.

Cape.	
V. & B. No. 50, 3/4 in.	0 29
V. & B. No. 50, 1/2 in.	0 64

CHUCKS, DRILL.

Goodell's, for Goodell's Screw Drivers	List less 35-40%
Yankee, for Yankee Screw Drivers	\$6 00

CHURNS.

Anti-Bent Wood.	
Gal.	5 7 10
Each	\$3 00 4 60 4 85
Belle, Barrell	65 & 7 1/2%
Common Dash,	
Gal.	